

# Page!

Atari  
Users  
Magazine

Issue 23

£1

September/October

## WATER SKI SCHOOL



*A Bigger Screen for  
your ST*

### In Depth Reviews

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*COMRAKS review*



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## REFLECTIONS

The issue is being prepared over the usual summer period, quiet time in from the point of view of computer users who seem to forget about computing while the real world Ash all the readers (the bonus section) how business in the summer, they would like to see more of you, and our publishing team are disappointed too. Our local issue shop has certainly closed down for a month and is sending postcards to their customers via adverts in the local press! Behind the scenes, however, it is still very hectic. It still takes the same amount of time to prepare that issue and we also have to plan for the PCW show which will be upon us as you read this (Go and check out the huge Atari village! Nevertheless it seems a good time to be a little reflective.

As I prepare this issue I am struck by the amount of information that we manage to pack into each issue of *PCW* & those who complain that we get not enough ought to reflect for a moment on the depth of some of the reviews and readers. When I tend to do a try and squeeze as much as possible of the review word into each issue, I am tempted to wonder the editor's blue pencil because often you see an article compressed into a summary rather than a review that tells you quite about a program and which it obviously wastes to fill a small allocated space. I believe that you are entitled to read to grade in the reviewer or author wants to write and if he is sufficiently motivated, or interested, to write in length why not give you the chance to read it? Some of the reviews we have done have been amongst the most comprehensive you will find in the UK computer press and will serve as a good reference for the future. One good case in point is John Sweeney's in-depth review on UltraTV (which may just be squeezed out through lack of space). It is certainly a story in itself and makes good reading from that point of view. I thought long and hard about including it, but if we can make the space, it will be here for you to read and see, as you choose.

One thing that suffers by packing it all in is design in the traditional and classic sense. We don't use a lot of white space and large headlines, nor do we often have half page illustrations (and never full pages) and from a design point of view I do regret it. But you can't have everything and with a new month war between users, wouldn't you rather have lots to read than be knocked out by some stunning design?

On the subject of reviews read the magazine, Jan Stone is taking a short rest due, in great degree, to a lack of E-tel software seen in for review. We are convinced with ST software but not too many software companies seem to test it!

Enough reflecting. Let's put this issue to bed and get ready for the PCW Show. Hope to see you there, it looks like it is going to be good.

## NO MORE DATABYTE

Due to a dispute over payment for their colour ad which appeared back in issue 20, it looks like we will be unable to bring you reviews of Databyte's products in the future. I am saddened by this as they are producing some excellent products which we would love to review. I am doubly saddened because I used to have long conversations with them last year about how badly the 'big boys' treated Atari owners and the smaller companies, and about how we tried to support each other for the benefit of all. It seems that the bigger you get the less you need to care. Hopefully that is not so and maybe by the next issue I can report better news.

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## 2 BIT EXTRAS

2 Bit Systems are to extend their range of musical hardware add-ons for the Atari with a new MIDI interface and a hardware Drumkit. The latter is entitled Percussion Master and will be available for 68k or 68k machines. The comprehensive array of built-in drum sounds can be supplemented by your own samples from the company's Replay system. The entire range of products will also be available shortly for the ST.

## TWO FROM S.E.C.S.

Software company S.E.C.S. have released the first two titles in their planned range of Atari software. The first is a true multi-tasking Forté language entitled Go-Forth which comes on disk complete with a 70 page manual at £24.99. The user of Go-Forth can write programs for commercial use without need for a main frame license and indeed S.E.C.S. encourage users to write commercial software with this package. They will even assist in gaining the right software into the market.

The other release is Fort Constructor, written with the aid of Go-Forth, which enables programmers to design and edit character sets to include graphics. Fort Constructor is also on disk at the low price of £6.99.

## ITS NOT ALL ST!

At the CES show in Chicago last June several companies set out to prove that publicity and interest in the ST has not diminished interest in the 8-bit machines and, as predicted in our recent editorial, several companies who came into the market with ST products are now pioneering 8-bit releases. Among these is Haba Arrays who have a financial planning package entitled Get Rich. Arrows have re-released their Budget program and have a new release entitled Peppercorn. Software have another financial program called Personal Accountant and several companies have new educational programs, some of which may only be suitable for the American market. Among these are Spinnaker, and Business Learning. Several companies showed hardware add-ons and their own developments in the area of enhancing the 8-bit machines with a move from our company and GEMS-like windows from another. There were many other 8-bit products on show. Who said 8-bit was dead?

## NEW ADVENTURES

Atari Adventures are in for a treat this year as Rubico Software convert their best-selling BBC adventures to the Atari XL/XE machines. These text adventures will not be just straight conversions but will be enhanced to take advantage of the Atari's capabilities. The first release will be ROCK HANSON, part of a trilogy, which will have ten more locations added to make a total of 230, a few extra problems and a vast amount of text! The parser can handle full sentences and multiple statements of the nature 'Fill the bottle with water, get the blue book, the book with the red cover and the yellow book and examine all the books apart from the red one'. Wow!

The Atari version is being converted by Nick Gregory using a customised version of The Slave, an adventure writing utility available separately, and Rubico are confident that the program will be first class.

Other titles to follow are Project Thauran, Island of Xaan and the 'image-adventure' Earthen Seven. All titles will be available only on disk starting at £14.95. Earthen Seven will be £17.95.



# News

## MORE BUDGET TITLES

Blue Ribbon have reduced the prices of their existing titles to £1.99 and have introduced five new Atari titles - Nightmare Maze, Scavenger, Darts, Diamond Mine and Cavale Assault. These new titles on cassette cost just £1.99 and all five games are available on one game disk at £9.95.

## ARIOLASOFT

Recently released from Ariolasoft is Labyrinth Philosophorum, a graphic adventure featuring 33 screens, 'super' graphics and multi-tasking. You must go in search of the Philosopher's stone to save your dying King. On disk only at £14.95.

# STAYING TOGETHER?

Over several years ago, I saw an advertisement for a new computer with lots of memory (RAM), four sound channels, colored disk drive/picture interface, and more colours than I could ever imagine to a computer. After seeing a DDT motherboard and all the necessary add on utility boards of another computer, this new one seemed expensive. However, it did have a little brother with only 128K but all the capabilities of the bigger model. This was the one I was to buy in my first ever computer.

In the coming months, I was to learn as you for articles in magazines relating to the machine. To be fair, computer magazines were at their infancy then. I did strike lucky by buying the first edition of an American magazine which was dedicated 100% to my computer. I can remember those happy days when everyone was a beginner and helped each other over the difficult bits.

The Americans took to the computer with open arms and the market leaders at that time began to worry. Over here it was a different story. None of the computer magazines wanted to know about it. They pushed all other computers but mine. I was fortunate to win a war. At the same time there appeared what seemed to be a fast magazine machine from DAI which quickly disappeared without trace. It had no help brother so I could not afford it, and I stuck with my computer.

Strangely enough all the talk from the UK press brought us owners more and more together as a family. A club existed from the weekends finally merged up a UK magazine. He was delighted in both the computer and the magazine which you will realize if you read the magazine. Now, with our own magazine, we did not care about the networks now writing about "Our Computer". At the same time, this struck a hard blow. Bad management, poor advertising resulting in low market sales, a downturn in the sale of computers generally and other major advances seemed to bring the manufacturer to his knees. Rumour was rife that we were to see the end of our much beloved machine.

This only brought us even closer together, and we hung on to other machines about cheap or cheap, a new and better machine, change of management, you name it, we believed! I do not think that we would have believed what was to eventually happen to the management if we had been told. This the directors of our most beloved trust would have wanted to do with new ideas from the director of their trust was, that he would have them and take over our trust? Surely not!

Crash as it happened. This man was strong enough to disregard the hangers on and leeches from the press about his new business. After all, he saw it from a computer's angle and realized the potential. He then stood on the heights and told all about the unbelievable power and low price of a new generation of machines that he was to bring out. Again the radio contacts from the press (necessity in the UK!) How can you ever compare against the overwhelming sales of the market standard "Big Blue"? In fact, looking back, he was to do for the seven-bit machines what Sir Chris Fowler did

for UK home computers in general, i.e. sell a machine at an affordable price and force the competitors to rethink their own over inflated prices. We are the owners who are now called above and now called down to? We are the ones who are going places at last. But glory is not won at a cheap price.

All of our eight bit models will run the same software, but cannot fit in another world. Our happy family now seems to be dividing itself into two camps. I realize this in readers' letters published in the American magazine that I still subscribe to. Complaints about a magazine which a magazine, less might be similar (even though the magazine is thicker than ever and the number of eight-bit articles remain the same?) and a general feeling of being left on the shelf. Why then do I do not know. I never felt any animosity towards my computer's big brother, nor its replacements and certainly not to the new version that has almost three times the memory of my machine. I suppose that, having bought the seven-bit model, I can be accused of having the best of both worlds. True, but that will also not help me understand this devastating trend that has now appeared. Certainly everything is well thought about the machine and it is much publicized, but not to the detriment of the eight-bit models. Our new owner has promised to support existing models and is pressing software houses who have never done so in the past to write for the eight bit range. He is also supporting the VCR!

When such statements capabilities occur it is only the users themselves who come out worst and they can only blame themselves for such shortcomings. They know years ago that seven-bit was the fastest, only memory prices had risen from occurring. Now it is within their grasp and they should be using their existing machines to learn about the new generation. Believe it or not, a lot of software is downloaded from magazines to the system list, and new subscribers wished out on the system list computer can be used for eight-bit computers. Software houses who would never dare to work on their machines are now looking seriously at what, to them, is a new and unexplored market. We will reap the benefits by being able to buy upgrade programs at a reasonable price and not be stuck with the cheap and garish that seven-bit computers owners have to contend with.

Some people complain that when I do start talking I can be quite verbose, so I had better end this diatribe. Suffice to say that those who recognize my name will know that I am dedicated to helping beginners come to grips with their computers, regardless of the model involved.

As a footnote, I have occasionally not mentioned my company, although you should have recognized it by now. This was done purely because the articles writing are not restricted to the computer alone. Users should stick together for the benefit of all.

G M Henderson  
BAUG Software  
PO Box 179  
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## EASY FORMATTING

Dear Sirs,

I have a little comment on Steve Pallas's article 'A Guide To Error Codes' On Error 642 (Disk Full) he says the only solution is to use the cartridge recorder. I have a better solution. By using the following XIO commands with Disk 2.5 in direct mode (Auto BASIC) you can increase a disk without going to the DOS menu and still have your program intact:

```
XIO 254 #1,0,0 D (to  
reformatted directly)  
XIO 251, #1,0,0 D (to  
single drive 5)
```

A little word of warning, make sure you have inserted a fresh disk before attempting this since it will erase everything on your disk.

I hope that this little tip will be of use to others. It has helped me out of many tricky situations.

Born Demochromer,  
Oswestry

## ANOTHER DOS

Dear Editor,

This is just to let you know that my another Bulletin board is in operation and I would be most grateful if the information could be published in your journal.

Name of System: The System  
Transmission rate: 300 baud  
Times: 24 hours  
Town/Country: Northampton  
Phone number: 0632 817999  
(ring back)  
Brsup: Post Office

This is not a commercial board and is run on an Atari system. Messages are welcome from all.

P B Brans,  
Northampton

## CHEAP UPGRADES

Dear Sirs,

First let me thank you for Les Thompson's 'Three 3' program in Issue 2. It helped me during two years that I've struggled with for the last year. Each simply had a comment at the end of a DATA statement, and how many times had I proofread that!

Now perhaps I can help any readers with 8088's at their point to upgrade at a reasonable price. I recently bought a 64k upgrade kit from a place in the States for US\$499 and installed it on a friend's 8088. It now performs exactly like my 8088L and runs everything I can throw at it. The kit consists of two RAM chips to replace two already installed and three memory wires, two of which require some easy soldering to install. The manufacturers are very clear and simple and the whole job took less than 30 minutes.

The company will be glad to send through the international mail but payment must be in US dollars such as an International Money Order. The address is Computer Service Ltd, 1075 W Broad Street, Falls Church, Virginia 22046, U.S.A.

T/Sgt Bob Mankie,  
RAF Brizehampton,  
Salisbury

## RENUMBER POSSIBLE?

Dear Sirs,

Can anyone tell me how I can get an 8088L to perform the 'renumber' function found on the BBC which I use every at college. Although generally the Atari computers (especially with the BBC), the former's lack of this facility is annoying when attempting to edit and debug programs.

Also I have seen offered a

'single-diskette' and a double-diskette' second hand 1050 disk drive. What is the difference? Can either run Acornware on a 1050?

Ian Hayward,  
East Sussex

Some languages (such as BASIC) do have a built-in cassette feature although this is an expensive way of obtaining the facility unless you want the other features of the language. Several assembly programs have appeared in magazines and in the public domain which work either as an 'add-on' program on the end of your list or fit inside an memory to be used by a BASIC and. There are a few programs on the public domain which do the BASIC 6 Jobs and many User Groups may have such programs.

There is only one model of the 1050 disk drive which can be used to either single-diskette or enhanced-diskette (but that double-diskette) as you wish. However, to achieve this is obtained to use the drive in two

double-diskette. There are no alternatives in the type of programs that can be used on the drive.

## TELECOMPUTING ILLEGAL?

Dear PAGE 5,

I am very interested in telecomputing but it seems to be forbidden in Belgium. Could you or any reader tell me if it really is?

Ferdinand Papez,  
Belgium

What strange! Can any body show any lights on that?

## ASSEMBLER EDITOR PROBLEMS

Dear Sirs,

Help! How about a future article on the Atari Assembler Editor used with the SIC11

## DO YOU WANT MORE SOFTWARE?

Dear Sirs,

My name is John Devron (not, my Dad wore the Flight Sergeant's ill system). I would like to start a campaign for Atari owners. With the help of Page 5 readers I believe that we could get through to software companies and get them to write good software for us. There are a few companies who have written things, like Mastertronic, but they treat us like we own a defunct computer, which we don't! There are some software companies who have treated us very badly, and these are the companies I would like the campaign to be aimed at. Ocean Software and Blue, are the main 'baiters'. At the

beginning of 1985 Ocean was big (other ads with Atari version alongside Commodore, Sinclair and Amstrad). We wanted mainly for Deluxe Superstar and Frontier on Atari. User went had a news article about Ocean! We then worked and waited and then gave up. Like on the other hand actually brought something out, but they might as well not have bothered! AIR-WOLF is not in big letters "GREAT" The number 1 top seller! then underneath the big letters it said "This was originally one marketed under the name Blue Thunder WHAT??? Why did we get Blue Thunder and Commodore does, Amstrad, Spectrum, BBC, Electron, C16, Plus 4 and Tandy Runstar owners get the real thing! This offended me and I wrote a letter of complaint to the Managing Director, within days I

revised? I recently purchased an Editor and the manual simply says to **CLOAD** an object listing into BASIC, but this results in an error. Using **ENTER ^C**, everything seems to work, but on **PRINTING** (YES), nothing is there. I'm stuck. Also is the **G** command to resume the machine code so to my simple mind this is what the manual seems to imply?

#### Call Wishing

The manual for the *Illustrator* didn't have any for years! I did have the answer to the problem some time ago but it now appears to be lost in the maze of time. It had been fairly well documented so perhaps another reader would care to drop in a line so that we can publish the details and keep a note of the case for future reference.

Write to READERS SERVICE, P.O. BOX 34, STAFFORD, ST16 1DR.

received a reply saying that they would be bringing out *Paperboy*. So the Atari at the tail of June, they better have not been lying or they'll get another letter!

If you are any software developer then should be out on the ATARI, write to the Manager of that company and say you want it. We are no longer a minority group, there are a lot of Atari owners about now. A campaign such as this worked very well in the USA and Atari would manage to get **BRODERBUND** software to bring out *Loch Ness*, *Bonnie* and *Championship Loch Ness*. They also got 'Turnout 81' from another company.

This campaign should not only apply to games. Utilities and word processors, anything you want! If you want it, write and let us all!

I believe if we all write at least

## MINI PRINTER SUPPORT

Dear Les,

I recently bought a 1029 printer so I could run off Assembly listings and graphics dumps. Unfortunately I do not feel that I am using the printer to its full potential as I have no software programs that can control character, screen character or screen dumps of my favourite games. I have seen this done on other printers and wonder why it is not readily available on an Atari printer.

At the Atari Show I purchased Mike Combs' *Print* from Amsoft. This is an excellent program that includes the option to print the music score to a printer. However, the program requires you to set up a printer before dumping the music by typing in a code of some sort. The most annoying thing is that the manual for this program gives examples for an Epson printer but not for the 1029. Does anyone

own a letter we could get the software companies thinking, so go to it, WRTTG? John Dawson, 4, Sandy, Beds.

I would love to see such a campaign work but I suspect that the more subtle *Broderbund* Atari users would not take so linear a strategy campaign such as much favour as the *Illustrator*. Well, it could be done. It will take a lot of work but, as this site, starts with just one letter. Start by writing to the Managing Director of Ocean Software Ltd at 6, Central Street, Aldershot, Hants GU11 1JF then you must write software for the Atari and ask him to send details of future Atari releases to PAGE 6. If he receives several thousand letters to the same effect of yours, it may have some effect! If it does then it's done.

know that street code or indeed know anything useful about the printer?

Tim Eyles,  
Barnsley

If you have a few articles and programs about the 1029 which only need to be checked through before we can publish them. They should show some light on the subject.

One of the problems with the 1029 is that it only uses a price band many of 7 x 3 whereas most other retail music magazines have a 9 x 9 matrix. If that the 1029 has poor graphics it is not possible to simply use a routine designed for another printer, a custom program has to be written. The other problem is that most of the commercial software that controls facilities for screen dumps is written in *Illustrator* when the 1029 printer was either not sold or was sold in very limited quantity. As a result most companies do not bother to include a 1029 option in their programs thinking that the demand would not be worth the effort. The 1029 can't read most character sets and so has to have publishing some programs with the software.

## LONG LINES

Dear Les,

I recently bought my own ATARI and the heavy typing in the programs from PAGE 6 and

The reason for writing is that I managed to get hold of some back issues of PAGE 6 and we are having a problem with House of Secrets from Issue 10. It is possible to let the name, or better still print, the TYPO 3 codes for that and slide listings? Also, sometimes when my son is typing on a review line, before he gets to the end of the line there is a beep from the computer and when he presses RETURN he gets an error code and the end of the line is missing. He can cure this by pressing out all the spaces but when he presses

RETURN the computer puts them all back again. Why?

Mike Bradwell,  
Gwent

The early issue of PAGE 6 used TYPO 2 for error checking and you will find a table of codes for the programs in each issue. The original TYPO 2 program was published in Issue 5 which is now out of print but we will supply you a copy of the program so anyone who wants to use it. We do several or some ways to produce TYPO 3 codes for all of the programs in past issues but it is one of those projects that will take a considerable time and keep getting put off when more important things crop up. Hopefully one day we will publish some sort of supplement.

The reason the Atari beeps at you when you have typed in a line of information is to warn you that you are coming close to the maximum amount of characters that you can type in one line. You are allowed only three physical lines or pages for each program line although normally the computer can average longer lines. There are several ways to space more information onto a line. One, as you suggest, is to let the next space function to do an abbreviation for BASIC words, check your manual or Herb Hitchcock's A-Z OF BASIC, published in PAGE 6 a short age ago. A third way is to type FORW 81 and press RETURN before you start typing. As you enter each line the Atari checks it before accepting it as part of the program. It can recognise legal abbreviations and many spaces and will automatically correct them for you but when a flash something else is there we recognise, it will tell you so in the form of an error message. The system checking on the Atari is one of the very best but it can only check so far of course it legal as defined by BASIC. It cannot check for all characters that are typed incorrectly unless it only the TYPO programs were developed.

# XREF

by Brian Smith

## Find all your variables

```

00 0 REM *****
01 0 REM *          *          *          *          *          *
02 0 REM *          *          *          *          *          *
03 0 REM *          *          *          *          *          *
04 0 REM *          *          *          *          *          *
05 0 REM *          *          *          *          *          *
06 0 REM *          *          *          *          *          *
07 0 REM *          *          *          *          *          *
08 0 REM *          *          *          *          *          *
09 0 REM *          *          *          *          *          *
10 0 REM *          *          *          *          *          *
11 0 REM *          *          *          *          *          *
12 0 REM *          *          *          *          *          *
13 0 REM *          *          *          *          *          *
14 0 REM *          *          *          *          *          *
15 000 PRINT SPACE "***** UP *****"
16 100 FOR I=1000 TO 1999 STEP 100
17 200   PRINT "*****";
18 300   PRINT "*****";
19 400   PRINT "*****";
20 500   PRINT "*****";
21 600   PRINT "*****";
22 700   PRINT "*****";
23 800   PRINT "*****";
24 900   PRINT "*****";
25 1000  PRINT "*****";
26 1100  PRINT "*****";
27 1200  PRINT "*****";
28 1300  PRINT "*****";
29 1400  PRINT "*****";
30 1500  PRINT "*****";
31 1600  PRINT "*****";
32 1700  PRINT "*****";
33 1800  PRINT "*****";
34 1900  PRINT "*****";
35 2000  PRINT "*****";
36 2100  PRINT "*****";
37 2200  PRINT "*****";
38 2300  PRINT "*****";
39 2400  PRINT "*****";
40 2500  PRINT "*****";
41 2600  PRINT "*****";
42 2700  PRINT "*****";
43 2800  PRINT "*****";
44 2900  PRINT "*****";
45 3000  PRINT "*****";
46 3100  PRINT "*****";
47 3200  PRINT "*****";
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51 3600  PRINT "*****";
52 3700  PRINT "*****";
53 3800  PRINT "*****";
54 3900  PRINT "*****";
55 4000  PRINT "*****";
56 4100  PRINT "*****";
57 4200  PRINT "*****";
58 4300  PRINT "*****";
59 4400  PRINT "*****";
60 4500  PRINT "*****";
61 4600  PRINT "*****";
62 4700  PRINT "*****";
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64 4900  PRINT "*****";
65 5000  PRINT "*****";
66 5100  PRINT "*****";
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110 9500 PRINT "*****";
111 9600 PRINT "*****";
112 9700 PRINT "*****";
113 9800 PRINT "*****";
114 9900 PRINT "*****";
115 10000 PRINT "*****";
116 10100 PRINT "*****";
117 10200 PRINT "*****";
118 10300 PRINT "*****";
119 10400 PRINT "*****";
120 10500 PRINT "*****";
121 10600 PRINT "*****";
122 10700 PRINT "*****";
123 10800 PRINT "*****";
124 10900 PRINT "*****";
125 11000 PRINT "*****";
126 11100 PRINT "*****";
127

```

If you have ever tried to modify a BASIC program from a magazine (or even one of your own) that you know how useful it is to have a list of which variables have been used and where they are used. This machine code utility fits into page 6 and does both tasks at high speed. It was developed from a BASIC program given in the ATARI BASIC SOURCE BOOK (CompuL Publications).

The BASIC program below POKES the code for the utility into page 6 and will work with either Revision A or Revision C BASIC ROMs. Once the code is in place, any BASIC program can be loaded and a simple USER call used to generate a cross reference for XREF being. The utility can operate in three modes and can send output to the screen, a printer or a disk file.

### FULL CROSS REFERENCE MODE

To produce a list of every variable name currently held by BASIC together with a list of the line numbers where those names are used enter an immediate mode USER call (i.e. don't use a line number) like

```
X = USER(15361)
```

where 1536 is the start address of the utility and the '1' selects full XREF mode. This will output the full XREF to the screen. Use Control-C to pause and to start the listing otherwise it will scroll past too fast for it to be read.

### NAMES ONLY MODE

To produce just a list of the names of all the variables use a USER like

```
X = USER(15360)
or X = USER(1536)
```

These two commands have the same effect, the names are listed to the screen, one per line. Each name is followed by its 'variable number' which is allocated by BASIC. This number, which is in the range 128 to 255, can be used in the following mode.

### SINGLE VARIABLE CROSS REFERENCE MODE

This mode is called up by a USER call like

```
X = USER(1536,NUMBER)
```

where NUMBER is the variable number of the required variable (see "Names Only" block) to find the number of the variable of interest. This command will list on the screen the name of the specified variable followed by the numbers of all the lines which refer to this variable. For example, X=USR(1336,128) will list all references to the first name shown in a "Names Only" listing.

## SENDING OUTPUT TO PRINTER OR DISK

It is quite easy to switch the XREF output to a printer or a disk file. In order to keep the size of the utility below 256 bytes (so it could fit into page 6) a channel to the appropriate device has to be opened before XREF is called. When XREF is called, it is given an extra parameter which allocates the channel to be used. For example to use a printer use commands like

```
OPEN #A,L,"P"
X = USR(1366,6)
```

to send a names only listing to a printer. Once the channel is open, subsequent XREF calls can be made, e.g.

```
OPEN #A,L,"P"
X = USR(1366,6)
```

```
X = USR(1366,128)
X = USR(1366,196)
CLOSE #A
```

To use a disk file instead of a printer simply change the OPEN command.

## ERROR MESSAGES

XREF has one error message, ERROR 0, which means too many parameters have been supplied. In addition to that, the normal I/O error messages may be generated by BASIC, e.g. if the USB call specifies channel 0 for output when that channel is closed then ERROR 103 will be produced.

To stop the XREF output, e.g. if a fault XREF was requested by accident, press the BREAK key (there may be a short delay before the STOPPED message appears).

Note that XREF can show when it is time to clean up the Variable Name Table. If XREF does not list any line numbers for a variable then either the lines which referred to it have been deleted or else some immediate mode commands have used it. These "unused" variables take up space which can be reallocated by LISTING the BASIC program to disk (or tape), typing NEW to clear out the old program and then ENTERing the program from disk (or tape).

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# 14. MINDSHADOW

**Mindshadow** is a relatively new release from Accession which follows the tried and tested format of the good, old-fashioned computer text Adventure. It comes on a double-sided disk for the 5-bit Atari 2, but I believe it is also available for the ST. I played the 5-bit version, but I have no doubt that the ST version is similar.

The concept of the illustrated Adventure should not be new to long time readers of this column, as I've covered many illustrated Adventures in the past. The basic format was pioneered by Sierra On-Line, but has since been refined by the big name companies like Datasoft, Sierra, Progress and Broadsword. Improvements have generally been in the areas of graphics, vocabulary and the all important parser. The complexity of the puzzles has never really expanded beyond that of the early games and has certainly not reached the sophistication of some of Infocom's best puzzles. This does not mean to say that the games are easy. Some are! Some aren't!

I would personally put **Mindshadow** in the easy category. It only took me a day to solve, but don't be disappointed if a taken you longer. One reviewer said "the puzzles certainly are tough - I wouldn't have made it through the game without the cheat sheet Accession provided". Alan Englander (Winter 1986 page 76) I can't understand anyone finding it THAT tough. I guess the degree of difficulty is proportional to your previous Adventureing experience.

The music I found **Mindshadow** to be very nice then it was or well, average. It's the sort of game that you can dip into very easily. You don't have to waste a lot of your time on a limited vocabulary. You feel comfortable when you start to explore the game. It does a good job of predicting the type of actions the user will try to carry out and it provides plenty of clues. Let me give you a sample transcript from the opening moments of the game. All text provided by the game is in lower case. The prompt is a simple colon. User input is in upper case and my comments are in italics.

You are in a beach with a marvellous and intriguing view of the ocean. You see a hut to the north. You see a shell. You are presented with a picture of a tropical beach. In addition to the things mentioned, you can also see some palm trees.

#### EXAMINE BEACH

You are looking around.

#### EXAMINE HUT

You see a tree hut in the distance.

*Hint: You don't see any clues as soon as you've examined everything else on the beach.*

#### EXAMINE SHELL

You are looking around.

#### GET SHELL THEN EXAMINE IT

A shell is taken.

It is a beautiful shell!

*The picture is colorful and flashy, but without the shell*

#### LISTEN TO SHELL

You hear Louis Grasso muttering an ocean verse.

*Hint: Is that a hint? It is your reward!*

#### EXAMINE THE OCEAN

Could it be? Yes, a ship is sailing along the horizon.

*Hint: Already you have an idea of how to escape the island.*

#### EXAMINE SHIP

The ship is too far away to see clearly.

You decide to attempt an otherwise impossible

#### BLOW INTO THE SHELL

You blow into your reward in the face, but nothing at all happens.

*Hint: You can't tell the program predicts your action.*

#### CLIMB TREE

Boy! These monkeys make a lot more than it is. How to climb these palm trees is a mystery!

#### EXAMINE TREES

There are some monkeys playing at the trees.

#### LOOK AT MONKEYS

The monkeys seem to be enjoying themselves.

#### GET MONKEY

The monkeys are far too nimble to be caught.

*Hint: A animal! You get a better idea.*

#### SWIM

Hey! This is great! Warm water, blue sea, ocean

climate. *stark!*

*Hint: It seems that the game has ended.*

Would you like to try again? (Y/N)

So much for that idea! Next time, you decide to check out the hut...

And so it goes on. The parser is not as sophisticated as (say) Infocom's, but it does allow the inclusion of definite and indefinite articles and some adjectives and prepositions. When these are included, they are generally ignored. Hence

#### LOOK AT THE PALM TREE BECAUSE LOOK TREE

The parser also understands common nouns (THE N, AND) and at least one preposition (TO). This allows compound commands such as the one used above - GET SHELL THEN EXAMINE IT.

Other useful commands are GET ALL, DROP ALL, THINK (uses about the under "Game Playing" category) and HELP. HELP is a bit unusual. If you type HELP (or any of its variations) or press the HELP key on the KLOB, then an edit line called the Condo will sometimes help you. His help is usually available early in the game, but he becomes less generous with his help as the game goes on. Fortunately, you probably won't need his help very often. If you do, you may find that the advantages are outweighed by the disadvantages. Firstly, you will have to flip the edit over to get the help you need. Secondly, you are only allowed three HELPs per Adventure. And finally, the help that Condo gives you is sometimes so obscure that it's probably of little or no help anyway! Here's an example:

*The Bearded Bird is high above on the island mountain.*

by Garry Francis

low. Turning my head from side to side (no alternate eye), I press the central track mouse. Load contact are up. SAMP. TRAMP. TRAMP are way up. One alone to where you work up, Great, it's a choice let, MP, down, down-to-top, 30-year hidden payment.

Does that make sense to you? If it does, then you'll enjoy reading the rest of the book. Here's an interesting comment: When you've finished the game, play it again from the menu, but this time, your aim is to read all the help screens. In doing so, you will have to work out what conditions cause the help screens to change. For example, will the help screen change if you are carrying the shield? (Answer: No.) I found about nine screens of help. See if you can do better. (Hint: Type QUICKSAVE before HELP, then do a QUICKLOAD immediately afterwards. In this way, you can see more than three screens per game.)

Minidisc allows you to save up to seven different games numbered 0-6 by using SAVE GAME. These may be restored using LOAD GAME. This was not thing the really begged me. Why use 1-6 software boxes use the state commands for carrying out the same functions as in Adventure? What's wrong with the simple and established standard - SAVE and RESTORE? Perhaps we should get the International Standards Organization onto this...

The QUICKSAVE and QUICKLOAD commands mentioned above are a quicker way to save a game without having to assign a number to it. Very useful. Regardless of whether you use SAVE GAME or QUICKSAVE, the data is stored on side B of the disk. If you are worried about writing to your master disk (as I am), then you can probably use a word copier to make a backup of side B only. I know I made a copy of mine and I don't remember encountering any problems. Side A, however, is copy protected, so don't bother trying to copy it unless you've got one of those fancy disk drive modifications. Needless to say, you can only make a backup for your own personal use. Selling or giving away copies is a criminal offence.

Minidisc allows one unique feature that I haven't mentioned in an Adventure before, and that's utilities (or function keys as Adventure calls them). If you press SHIFT and a number from 1 to 8, then a whole command is printed on-screen ready for you to press RETURN. For example, SHIFT-1 is SAVE A GAME, SHIFT-5 repeats the last command and SHIFT-7 is QUICKSAVE. I don't find these very useful, because by the time you look them up in the instructions, you could have typed the whole command for yourself. However, what WOULD be useful in future would be macros. Macros allow you to define your own utilities. For example, I could define CTRL-D for DRDF, CTRL-S for EXAMINE, CTRL-S for SAVE and so on, whereas someone else might prefer CTRL-D for DIO, CTRL-E for ENTER and CTRL-S for... well, who knows?

## A Few Bugs

Despite my generally favourable impressions of Minidisc, there are quite a few bugs and/or design flaws which I feel you should know about. The one that stands out most in my mind is a rather nasty bug in Laramithing which actually works to the player's advantage. If you visit a screen area, the program appears to set an internal flag. However, if you drop the item, the flag is not cleared and the program thinks you've still visited it. When you visit a screen area later in the game, the flag you're wearing (which, of course, you are no longer wearing) saves you from certain death! Storage.

Another interesting bug was in the GET ALL and DROP ALL routines. I found myself printing and dropping items that I'd never even used! Try it.

Talking about bugs, the version of Minidisc that I wrote in June 1986 (page 42) contained a bug whereby the program crashed if you forgot to flip the disk at one point in the game. The bug has apparently been eliminated. I found all sorts of combinations of having the wrong side of the disk in at the wrong times and the program merely told me to insert the correct side.

## Graphics

As far as we come to the graphics - and very nice they are too! Minidisc's graphics are fairly typical of the genre. The bulk of the screen is used for pictures of the various locations in the game and the remaining four-line text window is used for user input and the program's comment. The picture can be toggled on and off by pressing RETURN on an empty input line. Every time you enter a new location, a new set of picture instructions is loaded from the disk. Once the new instructions are in memory, the old picture is erased and the new picture is drawn. This whole process is very slow.

The quality of the drawings is very good apart from an occasional glitch on the fill routine. In fact, the pictures have a sort of 3D effect but it's slow, especially those with people on the screen. However, the one thing that really impressed me was the colours. The selection of colours is fantastic! I particularly liked the bright greens and blues on the tropical island. This makes it a real thrill every time you discover a new location - and with over 80 locations, you're in for a lot of thrills.

As though all that's not enough, a few locations have been spaced up with some animation. The first I liked were the birds flying over the second beach and the pirate ship, the shark at the London docks and the moving man in the alley.

## Game Playing Strategy

Now, let's take an abrupt change of direction and get on to the game itself. The following section includes some game playing strategies, so don't read any further if you're worried about making the game easier than the designers intended.

Once you've loaded the game, progressed through all the obligatory title screens and eventually flipped the disk to side B, you'll find yourself standing on the beach of a tropical island. You're apparently walking from screen and do not know who you are, where you are or how you got there. The aim of the game is to find your identity. In doing so, you will pass through four regions - the island, a pirate ship, London and Luxembourg.

The first three regions are entirely independent. Each has its own series of puzzles and all the objects necessary to solve the puzzles are found within the relevant region. You might like to think of these as three Adventures in their own right. In the first region, your aim is to escape from the island. This was probably my favourite because of the colourful graphics, the clever interweaving of the puzzles and the mystery of a new game. In the second region, your aim is to get off the ship - not surprising since you're with the crew. In the third region, your aim is to get a plane ticket to take you from London to Luxembourg, although you don't know why.

You'll note that the aim in all three regions is essentially the same, i.e. solve all the puzzles in a flow you're prepared to the next region. However, there is a further aim common to

# Garry Francis' ADVENTURE HINTS

all three, but possibly not obvious until later in the game. You must find an object in each of the three regions that will somehow help you solve the puzzles in the fourth and final region. Once you know this, the respective objects will probably be obvious because of their usefulness in the region that they are found.

Examine everything, and that includes items in the pictures that aren't mentioned in the text. I know I say that all the time, but it's amazing how often people get stuck because they haven't examined something. Every object has a use, so hang onto it until it's not in demand. On the other hand, don't worry too much about THINK. The instructions exemplify an in-joke. You can only think about people or places and you won't discover any of them until London and Luxembourg. When a person or place is mentioned, that by all means think, but otherwise don't worry.

Once you have found all the objects and solved all the puzzles in any given region, there is no need to return to it. In fact, you CANNOT return to the island or the pirate ship, so save a game just before leaving these regions to ease your mind that you've forgotten something.

Swamp or lake, you will find yourself in Luxembourg if you've missed all the earlier problems and brought along the objects mentioned above, you will be able to solve all the puzzles in this region and ultimately find your identity.

## Hints

Adventure offers a hint sheet for *MINDSHADOW*. I don't know the best way to send a small amount of money overseas or how they would respond to your request, but it's certainly worth a try. Items are in the instructions packaged with the game.

Alternatively, you can always rely on your wits. The usual riddles here are on the real old time side. Just look for the area where you're stuck in the list of questions, then match the numbers for these questions with the words in the accompanying list to create a hint.

## Summary

Well, this about wraps it up for *Mindshadow*. I found the game to be very easy, yet satisfying and hence would have no hesitation in recommending it to beginners. The puzzle is good, the vocabulary is good, the puzzles are good and everything is logical. It is a fun game with good graphics.

Other published reviews have a few in favorable words. *Mindshadow* as I have, so maybe it's not every body's cup of tea. You might want to try it before you buy it, but for my money, it's highly recommended.

## Next Issue

Next issue I'll have a full rundown on *The Ship*. It is as good as the adventures imply? Tune in next issue to find out!

In the meantime, I can be contacted at the address below if you have any comments or suggestions for the columns. Note that this is a different address to that published previously. Please include a couple of International Reply Coupons if you request a reply and please enclose yourself to Adventure's club. It's a changing scene of the change I've been asked in the past, but really nothing about Adventure! See you next issue.

Garry Francis, 26 Barrow Road, Eastwood, N.S.W., Australia 1506

## MINDSHADOW

### The Island

- 1. What's your first name? 23 44 14 20
- 2. Missing leaf 43 04 20 1 21 52 32 32
- 3. Missing a bit of number? 10 44 20 11 20 10 11
- 4. Missing leaf? 33 30 40 10
- 5. Missing a leaf? 20 11
- 6. Can I get down the ship? 07 10 1
- 7. Can I light the leaf? 05 04 20 10 10
- 8. Can I get the cup? 04 11 10 1
- 9. Missing a leaf of wood 10 44 10 20
- 10. Can I get the question? 10 10 10 10 10 10
- 11. Missing map? 1 20 10 10 10

- 21. Can I have the number? 41 10
- 22. How's my eye money? 01 10 11
- 23. Missing a leaf? 01 10 11
- 24. Missing part of the leaf? 10 44 10 10 10 10 10
- 25. Confused about the map, but it's in the leaf? 10 10 10 10 10 10
- 26. Missing an entire leaf? 04 10 40 10

### Luxembourg

- 27. Does it have a leaf? 10 10 10 10 11
- 28. Does it have a leaf? 10 10 10 10 10 10 10 10
- 29. Missing an entire number? 10 10
- 30. Missing a leaf? 10 10 10
- 31. Can I get the leaf? 10 10 10

### Picture Help

- 32. Can I get off the ship? 23 10
- 33. A missing leaf? 10 10 10
- 34. Missing a number? 04 10 10
- 35. Can I get the leaf? 10 10
- 36. Confused about the question? 10 10 1
- 37. Can I get the leaf? 10 10 10
- 38. Can I get the leaf? 10 10 10
- 39. Can I get the leaf? 10 10 10
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- 99. Can I get the leaf? 10 10 10
- 100. Can I get the leaf? 10 10 10

1	THE	14	LEAF	40	TRUCK	71	BELLOW
2	SHIP	15	TRUCK	50	CHERRY	82	SMOKE
3	ON	16	TRUCK	50	OF	93	SHIP
4	WELL	17	SOOT	50	41	104	LEAF
5	WAVE	18	WAVE	51	ACROBATE	115	MILLAGE
6	MAN	19	CHICK	52	LEAF	126	FRINGE
7	MAN	20	WAVE	53	137	138	SHOON
8	SHIP	21	TRUCK	54	148	149	SHIP
9	TRUCK	22	TRUCK	55	160	161	SHIP
10	SHIP	23	TRUCK	56	171	172	SHIP
11	TRUCK	24	WAVE	57	182	183	TRUCK
12	SHIP	25	WAVE	58	193	194	TRUCK
13	TRUCK	26	TRUCK	59	204	205	TRUCK
14	TRUCK	27	TRUCK	60	215	216	TRUCK
15	TRUCK	28	TRUCK	61	226	227	TRUCK
16	TRUCK	29	TRUCK	62	237	238	TRUCK
17	TRUCK	30	TRUCK	63	248	249	TRUCK
18	TRUCK	31	TRUCK	64	259	260	TRUCK
19	TRUCK	32	TRUCK	65	270	271	TRUCK
20	TRUCK	33	TRUCK	66	281	282	TRUCK
21	TRUCK	34	TRUCK	67	292	293	TRUCK
22	TRUCK	35	TRUCK	68	303	304	TRUCK
23	TRUCK	36	TRUCK	69	314	315	TRUCK
24	TRUCK	37	TRUCK	70	325	326	TRUCK
25	TRUCK	38	TRUCK	71	336	337	TRUCK
26	TRUCK	39	TRUCK	72	347	348	TRUCK
27	TRUCK	40	TRUCK	73	358	359	TRUCK
28	TRUCK	41	TRUCK	74	369	370	TRUCK
29	TRUCK	42	TRUCK	75	380	381	TRUCK
30	TRUCK	43	TRUCK	76	391	392	TRUCK
31	TRUCK	44	TRUCK	77	402	403	TRUCK
32	TRUCK	45	TRUCK	78	413	414	TRUCK
33	TRUCK	46	TRUCK	79	424	425	TRUCK
34	TRUCK	47	TRUCK	80	435	436	TRUCK
35	TRUCK	48	TRUCK	81	446	447	TRUCK
36	TRUCK	49	TRUCK	82	457	458	TRUCK
37	TRUCK	50	TRUCK	83	468	469	TRUCK
38	TRUCK	51	TRUCK	84	479	480	TRUCK
39	TRUCK	52	TRUCK	85	490	491	TRUCK
40	TRUCK	53	TRUCK	86	501	502	TRUCK
41	TRUCK	54	TRUCK	87	512	513	TRUCK
42	TRUCK	55	TRUCK	88	523	524	TRUCK
43	TRUCK	56	TRUCK	89	534	535	TRUCK
44	TRUCK	57	TRUCK	90	545	546	TRUCK
45	TRUCK	58	TRUCK	91	556	557	TRUCK
46	TRUCK	59	TRUCK	92	567	568	TRUCK
47	TRUCK	60	TRUCK	93	578	579	TRUCK
48	TRUCK	61	TRUCK	94	589	590	TRUCK
49	TRUCK	62	TRUCK	95	600	601	TRUCK
50	TRUCK	63	TRUCK	96	611	612	TRUCK
51	TRUCK	64	TRUCK	97	622	623	TRUCK
52	TRUCK	65	TRUCK	98	633	634	TRUCK
53	TRUCK	66	TRUCK	99	644	645	TRUCK
54	TRUCK	67	TRUCK	100	655	656	TRUCK



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A highly recommended newsletter on disk is available from **PARTNER** in Montreal, Canada. Although produced by a small user group, the newsletter is the finest we have seen on disk, for wrapping their just-out-by-many-of-the-large-professional-organizations GEM is fully combined with design-room format for the articles and reviews which may be read from screens or printed out. This may be read in French or English. Currently available from the *Biloué, André Lafontaine* at 1161 Des Fossés, Boucherville, Québec, Canada J4B 6M6 for US\$9 plus \$1 postage payable by International Money Order, it is well worth paying with a few pounds for. It is possible that it may shortly be distributed direct in this country.

Postal orders will be accepted in a properly produced program **Flying Start** that shows full screens in French at 1200/75 despite the fact that the ST's usual post. can't handle up to 800 dots! It is all done by clever programming, fooling the ST into thinking that it is running at one speed, and then French handwriting is available at low resolution with all colours being displayed simultaneously. The software will run on the WDC800 or any VLSI protected machine and can be used to access French, Telecom Gold or Bulletin Boards. To order send £20 plus one formatted floppy or double-sided disk and a stamped addressed envelope with 17p stamp to Peter Connor, 8, Raleigh Close, Brentford, Chiswick, MK7 2NF.

**Habe Systems Ltd.** have released a spelling checker and look-up dictionary for use with **HabeWriter**. **HabeSpell** can also check and produce text with various other ST word processors and can optionally replace incorrectly spelled words from the 17,000 word standard dictionary. User definable dictionaries can also be created and any dictionary can be printed out in whole or part. **HabeSpell** retails at £19.95.

At last a **CP/M Emulator** is now available free of charge from your local dealer, you pay only the cost of the disks, however our mastering dealer, **Miller Computer Store**, has produced an enhanced package which consists of two disks and a 14 page manual, retailing at just £6.50 fully inclusive of post and packing. The original software was written in Germany and much of the motivation is in German. All these documents have been taken up, though not translated, and other writers have been added together with a catalogue of public domain software. The handbook manual provides a useful introduction for those not familiar with CP/M. The package can be obtained from Miller Computer Store, 291, London Road, Wincoburton, Sns. Eves, SK9 7JJ.

**Business Included** have a formidable array of productive software lined up for imminent release. Already available is **Thesaurer**, a real-time spelling checker that will work with most GEM based word processors or can be used as a manual spelling checker for other non-file. **Time Link** is a revolutionary and new keeping tool for your daily appointments and **BTS The Spreadsheet** is a sophisticated full featured spreadsheet that is also available in a desk-top accessory. Several of these already established, and highly respected, files programs are being released in ST versions including **HemacPak**, **PaperClip** and **B Graph**. The latter two are developed by the authors of **Time** on the file and a new file version of the highly acclaimed **DMCAS** is on the way. A number of ambitious enhancements to this program are planned, making it the first of the second-generation graphics programs for the ST. Processors will remain compatible with

several other programs including **PaperClip Plus** which will enable text and graphics to be combined in any direction.

Several ST titles are now available from **Amtec Publishing Inc.** including **Time Hudson's** computer-aided design program **CAD-IB**. Amtec have taken the ST very seriously and have commissioned and worked on the development of several new professional programs. **CAD 3D** can create and animate three-dimensional objects on wireframe and solid modelling with various light sources in monochrome or colour. Example drawings are included, including a remarkably complex model of **Knightsbridge Maps and Legends** enables the user to create maps of any part of the world from different perspectives and distances. These can be saved to disk or **DMCAS** format and be enhanced or amended with this program. This program is being used by the US Air Force to chart their flight plans at **Dover-Middletown Air Force Base** or **Arroyo**. Other programs include **Real Alert**, a new program which lets the player defend against a warlike attack on North America and **Plink**, a new communications package that uniquely combines a straight text terminal with a GEM based word processor.

**And finally** - some updates wherever from the GEM show at Chicago last June which may well be on their way to the shops by now. **Amsoft** have **Halo-on-Our-Golf** and a **Bridge** program. **Fast Sea Software** are coming out with **Great Big Hikes** and **Adventure** have **Faceworks**. **Open Promise** **Planet Games** and **Temple of Apollon** while **Interprime** are due to bring out **Misses Service**. Another attraction program comes from **Academy Associates** entitled **Mids In Motion**. There are several disk accessories from **Blue Moon Software** and a number of educational and education programs from **Academy Software**, **Spencer** and others. In fact it looks like almost all of the programs that have been available for the 68k Atari are being planned for conversion to the ST.

## REVIEW

### CUMANA 1 Megabyte Disk Drive

If you are looking for a disk drive for your 1005T/M or a second drive for an existing system, take a look at this little beauty from Cumana. From the front it is barely wider than a 5 $\frac{1}{4}$ " disk and just 12" high and 9 $\frac{1}{2}$ " deep. Being so small you wonder whether it can cope, but it is very solidly built and is housed in a grey metal case to match the ST. It is so quiet to use that without the busy lights on the front you may never know that it was working.

The drive is installed on to the rear and is connected to the computer with a flat ribbon cable and an adapter which is certainly not so neat as a conventional round cable but causes no problems. It is plugged directly into the means with the three pin plug supplied and does not therefore land you with another large transformer to hide.

Not much more to say except that it works perfectly, and quietly, it is a full 1MB double-sided drive that can be used for multiple-sided disks, and at £178, is £40 cheaper than Atari's 1 Megabyte Cumana also do two 1MB drives in a single case for around £179.

Superb-quality, good price, highly recommended.

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# ZOOMRACKS

One of the common problems with many databases is that they tend to have a fixed format that requires you to adapt your methods to run. More advanced programs like dBase allow a greater flexibility but these programs are not easy to use for the non-programmer and take many painful hours to set up. Quite often it is easier to continue to use a manual system of index cards, particularly with small databases, as many of you will have found out. Now with Zoomracks you can have the best of both worlds.

Zoomracks works on a principle of index cards with each card holding information in any format you wish to define. Unlike other systems such as Amn's Home File Manager for the 8-bit systems however, Zoomracks offers you almost unlimited flexibility and can be adapted to hundreds of applications. Each of your cards is held in a "rack". You can define as many racks as you wish and use them to think. Up to 9 of these racks can be used at any one time, although individual racks can be deleted and replaced. Each rack is displayed on screen with the first line of each card showing for easy reference. A quick click of the mouse opens a chosen rack to full screen and you can then select a particular card. Click on the rack and the card opens to full screen for viewing or editing. Each command is a toggle, so choosing open, or using function keys, will return you to the previous state. After a while it is surprisingly easy to move around between different racks and cards.

The amount of information that can be held on each card can range from a couple of words to literally pages of information. Each card is divided into fields which you specify and which can be easily changed, rearranged or deleted, even with information on the card. Up to 27 fields can be used on each card and each field can have up to 256 lines of 80 characters. That's more than you don't have to define the size of each field, just keep putting in information. If a gap to the edge where you can't see all of the information on a particular field, just click on the field and that will zoom up to full screen. As I sit and write down the capabilities of the program I become more and more amazed at its flexibility. Any field can be edited at any time with the built-in word processor which allows you to share words, cut and paste and more. It is fairly limited as a word processor but perfectly adequate for database use.



Several racks at once

## a new concept from Quickview Systems

Reviewed by Les Ellingham

The cut and paste facilities can be used on whole cards as well as fields. Any card can be easily and quickly deleted, copied or moved to another rack. Here too one of the real benefits of the system. Think of using no index card system for, say, a list of club members when you want to continue to help against a new event. There is no one constant factor to select them, you just know who you might be successful and who is not. On a conventional database each really random choice are not always easy to control and can only be achieved by having some sort of key field which you use much. Often if you forget to include a spare field when setting up the database, you have bother. With Zoomracks you just set up a new rack, go down your chosen rack and copy cards over to where you need up with a completely new database with the minimum amount of effort. And if you should decide that you need another field, just start it on, anytime! I don't know of any other database that offers such complete flexibility.

There are going to be many features of Zoomracks that I will not have space to cover but in addition to those already specified, there are some available on any field, such as be printed individually or the whole rack can be printed out. There are extensive macro facilities allowing up to 27 single key macros to be defined, including auto-macro macros that will load defined racks when brought up. The disk contains many examples of pre-defined racks that can be used as is or that will give you ideas for your own applications. There are a couple loaded as required from rack 0 which is always present and contains a directory of your disk.

The range of use for Zoomracks is probably wider than for any other database program and is simply illustrated by the use of several racks to hold a full tutorial for the program. This alone will demonstrate the power of the system and is essential reading to enable you to get the best from the system.

Although apparently easy to use once mastered, it may be said that there are a great number of commands to be remembered, although no more than with a word processor, and it will take several hours to become familiar with them. There are one or two areas which I did not like such as the way in which information has to be entered into cards. The TAB key must be used to move from field to field and RETURN terminates all entry to a particular card. This is particularly frustrating as it is almost impossible to hit

# ATARI S.T.

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Just the data



Zooms in on a full card

RETURN when you have completed something. If you have not finished a card you have to go back through the edit procedure and TAB down and start again. Several of the commands are extremely long (word) and require repeated steps to go into and come out of a procedure but will maybe become automatic with time. At the beginning it is just a matter of trying to remember everything although there are on-screen prompts and a help facility to assist you.

There is one way that I have done Zoomworks (prior to the review, several more pages would be required, so I can only repeat that this is the most flexible database system I have ever seen. For a home user in particular, it will cope with every single information filing application you can think of. Think of your address book, telephone numbers, record catalogue, notes, important reminders, lists, homework, your diary and anything else you can think of. Zoomworks can cope with it all. It really is an amazing system.

Zoomworks has been extensively reviewed in various newspapers in the United Kingdom following a promotional campaign by Quattro Systems and they have all rated it. Quite frankly I got sceptical when reading certain reviews because I know some reviewers don't like to concede when they have been given a free copy of an expensive program but in the case of Zoomworks every word of praise is justified. It's a new computer concept that surely must change the way databases are used. I challenge you to find a single program that gives you a more comprehensive way to use your ST to keep track of your life.

Zoomworks is distributed in the U.K. by Sigma Electronics Ltd, so it should be available from your usual retailer.

One of the most prolific producers of ST software is Mathman of the U.S.A. whose products are distributed here by Micro-land. Mark Hutchinson looks at the latest batch of releases. Are they good or bad?

## CORNERMAN

Microland  
Mono Mod Res.  
£29.95.

This is a desktop accessory file, automatically loaded when the computer is switched on and which acts as a digital clock on the top right hand corner. It takes up 20K of memory, so is best used when you have TOS or ROM. As usual, Microland paid that up in a neat two page folder with a star for the date. The pages are well printed and readable although some details are missing. The booklet also contains explanations of some common error messages. The two screens can be called by using the function keys or from a menu with the mouse.

The two screens are

ASCII TABLE	ASCII characters with their DEC, HEX, equivalent
CALCU LATOR	16 digits, scientific calculator
NOTEPAD	Seven lines of 32 characters for read, write
DIALER	Store names, addresses and date telephone numbers
PHONE LOG	Keeps track of telephone calls & their costs
FIFTEEN	Small game to pass the time
LOCK	Adding clock with privacy feature (Character defined) value
PRINT	Prints from the CORNERMAN data file
DOB WINDOW	Allows you from GPH to run a TOS or TTP program

The ASCII TABLE is very handy when writing a program, although the file is exact for an IBM, so allow entry to CORNERMAN. Much better than being through a reference book and entire data having photocopied lists (very slow).

The CALCULATOR is one of the best

of its kind that I have seen. It allows DEC, OCTAL, HEX, BINARY calculations (eg. AND, OR, etc.) and copying from up to 16 digit process, all the usual functions plus modular division, three memories, etc. The input can be by mouse or keyboard and a choice is made of the function to be called. The functions change according to the operating mode and the display shows a 'paper roll' with the last four values and the last four functions entered. You can use it to work with dollars and cents (or pounds and pence) or it is set up to use only two digits in the right of the decimal point. I found that any entry would not accept two figure cents. I also found that the square root took ages to calculate, obviously a simple chosen algorithm. No mention is made about choosing the memories - it is done with the view key - use the T and U keys mentioned. I think they should use the 'paper roll' memory backwards and forwards, but they operate a greater. Perhaps an update is due. Although I have a couple of public domain calculators, this is by far the best and almost worth the price of the disk alone.

NOTEPAD will store 256K of 1 lines by 32 characters in a data file. All lines are editable. A handy thing to have once you get into the practice of using it, and it saves you having all those little bits of paper lying around that you can never find when you need it.

The DIALER is somewhat similar to NOTEPAD, with 128K of pages of information that store names, addresses and telephone numbers. When the PHONE log is opened, the result of your call is stored. Again the files are fully editable and you can use the file for a name starting with a given letter. The dialer is Hayes compatible and can be formatted for time or pulse dialling, or a mixture. The PHONE LOG holds the results of any calls made with the DIALER, e.g. line busy, wrong number, no answer etc. Very handy for those of you who make a lot of calls and have a bad memory.

FIFTEEN is a game of sixteen squares, one of which is empty, and you must arrange the fifteen numbers into their proper order. I have a couple of these on public domain accessories. A nice passing game well programmed, but it



should be kept right down rather than to be on the disk.

The CLOCK is an analog clock that can be opened up to the full extent of the screen. It has a security code that must be entered before the clock returns to GPH (optional). I have no idea who you would want this, unless you need to leave the computer for a while without clearing down some private notes.

SETUP allows setup of the accessories along with an PDSIO, including their position on the screen.

PRINT allows you to print from the data files, either all, current or before or after a given date.

Finally DOB WINDOW allows entry to programs with PDL, TML or TTP accessories but is not useful if you have several such programs on the disk.

As a package the whole thing is well put together and will be particularly useful to someone with a modem. Although the system mostly in American ST version, due to the lack of modems in the U.K., it does not detract from the value of the package. I feel that some items should have been left off. If you do not use this accessory with a specific program such as a word processor or spreadsheet then you will not need the DOB WINDOW nor do you require FIFTEEN, there are enough on public domain disks. I think the package is a good idea, but I cannot see how the price. The only value down is user groups even adding their own features to the public domain network. One good feature is that it can be copied over to a hard disk - should you wish.

**NEXT ISSUE - A Review feature on ANTIC's ST programs including CAD 3-D and Maps and Legends**

## MAJOR MOTION. Microdeal Colour Only £19.95

The disk and booklet come in one cardboard box (you don't like that have to be loose). The booklet is two unattached pages - gives you enough information to get started and know what you are up against, other details you will find out from experience.

The main screen is a neat revolving map and if you button it pressed then the program goes into auto mode. This is a single or two player game with each taking turns on the road. The object is to drive enemy cars - but not wrecks - and to survive. There are several classes of weapons, and the opening legs can be re-programmed (a nice touch). As the cars, you will only have the chance of firing at living enemies. Your success can be recorded on a high score table written to disk.

The game starts with a track driving along a road. The enemy drop you off and you are on your own. When the track resumes, fortunately a regular occurrence, you start out in a long one of the boys then climb the map as is revealed with a new weapon (ant, helicopter missiles, machine, rifle, or jet, rocket). The track will then dump you onto the road open-off, so no frustration, right in the middle of trouble.

So who is the enemy? Any car that tries to shield your tires, knock you off the road or shoot at you is a car to take out. Added to all this is a helicopter

I normally do not play arcade style games and usually find that I will stop playing them altogether after a few days. This game is on a different league. I really enjoy it and come back to it time after time. As I am quite placed behind the wheel of my car, I find a 'Jerk-like-and-Hyde' character with the game. How I wish my Scorpio was like this car! The graphics are good and the scrolling is very smooth.

As a piece of £19.95, I have no hesitation in recommending this game had parents! Apart from the number track stop parking you off the road or dropping you right in it, I have not come across any. One point to note however. You will be using your mouse extensively and the rollers will collect dust and grime. This affects your overall handling and you will need to clean the rollers once in a while dropping oil and blowing holes in the road. You can also kill enemies too by worms! Knocking out too many vehicles will cause a fighter to blow you up! You will soon become adept at knocking cars off the road, until you meet up with your 'Red Two'. Watch out for the car that shoots at you. I have nicknamed this the 'Mafia Bull Car', it is very effective!

Sometimes during the game you will come to the point. Here, your car will become a boat and the instant will become very treacherous. Oh, many other boats and islands are your own designs. Beware your own mother ship. I have been pushed into islands by it and lost several lives! This is not an area for high speed. Once past the river you are on the road again.

are. Probably the first one chosen will be **SCOUTAGE**. This is more correctly a general name for solo card games with individual games having their own names. I cannot recall the name for the game reproduced here but it is a game that requires a good deal of thought although if you have the cards sorted neatly then you cannot win. The cards are sorted into groups of three with a base for the cards at the end. The object is to build up the suits from the ones, drawing cards as the process. Cards can be grouped by suit, King downwards. You are allowed two tricks that may or may not provide the cards enough to let you win. This is a good game raised by an amazing mouse flicker and the reordering of groups to fill up horizontal legs. This leads to confusion, as the group you were working with can move several times about

the screen, most confusing. When you win there is no congratulatory noise. A pity about the graphics as this is no foremost game of the five.

**REVENGE** is the most common game played solo. A row of seven cards, with the last turned face up, then a row of ten five six. The five can have one back from Ace up, and cards are played, alternating colours, King down on the river. Unfortunately, this is a variation that I don't like playing as it goes through the pack one card at a time and does not allow a re-deal, not can you move one face up card as a time to five another (not a rule that I know). I found it hard to recognize cards being under each other and this was more so when. The evaluation copy I was sent did not allow me to place the new card at the base, something that must be considered or else it is not worth playing! For some reason this game plays with money cards, but anyone over hand of a game of patience (a game you play by yourself) played for money? (Strongly enough, this game is not described in the booklet).

**POKER SQUARES** is a striking game. The pack is continuously being shuffled and a key press will select a card. The card is placed onto a five by five matrix to complete poker hands (five cards, five down). The computer wins but the more for you. I enjoyed this with the computer better than actually using cards. This game could well appear in the public domain, written in Basic.

**CRIMINAL**, a well known game, comes out quite well on the ST. I am not so sure about playing the computer game as I like having a human opponent to talk to. The computer takes too long for me to check (you never have time to play the game these days). The fun is certainly in trying to work out all the variations and arguing with your opponent to reach a conclusion the game is not so clear. This is a personal opinion - the game is good.

**BLACKJACK**. As I do not gamble (but I have played this game and my reasons for that) I do not find it exciting. I think that I would miss the sensation of a human player, though the game itself is very playable but to avoid the odds seem to favour the house!

Overall, the games are good, well designed and written. The only bad part is **KLOPPEN** but hopefully a new version will appear. I find it hard to determine value for money, that really depends how much you enjoy playing each.

## CARDS Microdeal £19.95 Colour Mono

The disk and instructions come in a neat little box but, again, as is the disk, have to be loose. It is when for general that the games are known to the user, including the rules laid out by the 'Official Rules of Card Games', Mark Bolton, published by the U.S. Playing Card Co. I had never seen this reference before but I found all the games playable without this source of reference.

When you load up the disk and open the game program, it sets up to GEM with Drop down windows letting you choose the game to play or the option (if available), including a voice

# REVIEW

## MENU+

Reviewed by Matthew Jones

As I have described in some of my reviews, a typical programming session consists of an edit, compile, link, run (debug) cycle. The LIST C language comes with a shell program to allow you to go through this cycle by selecting the programs from a set of menus, as well as setting such program options (like list file on/off, etc). Magnum C comes with a similar shell. They are very easy to use, and one who is content to make the boring part of programming easy (that's what if you don't like the status that is supplied with the system, or you have a special requirement that is not covered for in the shell) You cannot change either of the two shells mentioned, or the editors in the same script (even as they are, or even to change each part separately). Natcomco have produced their answer to the problem, MENU+

MENU+ is a user customizable shell. With it, you can customize three drop down menus to contain what you want, and to do what you want. The first menu is called FILE, and typically contains routines like 'Choose' and 'Choose C', as well as 'COMMAND' (run a program) and 'QUIT' (leave MENU+). The two choice options are used to allow the user to select which file the commands are to operate on. If you were using an assembler for example, you would have 'choose ASM', with Pascal, 'choose which is loaded by MENU+' when it is run. In the main menu, TOOLS, the usual working programs are available. When you have the correct 'file', 'compiler', 'link' and 'run', you can give yourself menu options, like 'compile with debug' and 'compile, link then run' (through out in so many others).

Behind each option lies one or more command lines. For instance, the EDIT line in the menu could start the line 'C:\>edit prog.pas;file type ed\_\*.pas'. Thus the edit program would be run, and pass the correct file name, along with options which set given defaults in MENU INP, and are alterable when in the shell in the third, OPTIONS, menu. With, for example, the compile option you may want to have more than one program run consecutively, and MENU+ allows you to specify both (and more if you want). You can choose to pause after the first one has completed, and to stop the sequence if the phase has failed. You specify a number command line for each option you want in the menu, and you have all you need to complete your task. The system is very flexible, and will cope with many different situations by having more than one MENU INP file.

The manual is a 26 page booklet which adequately describes how to use and program MENU+. It also describes UTIL.TYP, a utility supplied to perform basic tasks such as file print, copy, delete and rename.

Despite its very powerful facilities, however, I did find some problems with MENU+. In the first place, it is difficult (though not absolutely impossible) to set up files in a different sub directory, perhaps to perform a link in /object when you are using MENU+ in /source! Also, much more serious, I found it crashed quite a few times while I was developing a MENU INP file, so much so that I gave up finishing it. I am using it for another purpose though, where it works just fine.

MENU+ is good when it works, which is most of the time. For the asking price (about £20), or five with a Meta-comex compiler it is well worth experimenting with if you find your current trap restrictive or slow to use.

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# A 5 $\frac{1}{4}$ " DRIVE FOR YOUR ST?

Dave Keel takes a look at one from AS&T

Unless you've recently won the football pool, it's a safe bet that you've had a sorry shock when the time came to buy a lot of disks for your shiny, new, ST. It's like me, you are an ex-16-bit user, used to paying £30 to £35 per box, and wanting enough 3.5-inch or 5.25-inch disks, that I've never had any problems in doubling the storage, then having to pay £25 to £30 for a box of disks, and being unable to make the price of 5.25 disks 'fippy' floppy is quite a worry. I know you get 100k average capacity per disk, but ST programs tend to be pretty big.

The launch by AS&T Ltd., at the Amn User Show of a 5 $\frac{1}{4}$ " double-sided 1 megabyte disk drive for the ST is only £129.00 certainly seemed to offer an answer to such problems. I've been using one for a while now, and it does — well — almost.

The first thing to consider is that the 5 $\frac{1}{4}$ " drive is really only suitable as a second drive. If you've bought the 1000ET or the 1100ET, then you will already have a 5 $\frac{1}{4}$ " drive, and this is particularly important, since it's very unlikely that any software houses will release their ST titles in 5 $\frac{1}{4}$ " format. If you buy a 1000ETM, then you'll ideally need to buy a 5 $\frac{1}{4}$ " drive first (AS&T Ltd. also sell these at prices well below the official Amn version) to enable you to make full use of the 5 $\frac{1}{4}$ " drives' features.

The first impression of the AS&T 5 $\frac{1}{4}$ " drive is that it's a BBC-style refugio. The case is in the same robust and simple finish of the Beek, and further investigations revealed that the company is closely linked with DeLidat — a very successful BBC-style firm.

There's no power supply, power being obtained from a 4-pin DIN male female piggy back lead which plugs into the auto-copied rear of the drive, and between the SP154/SP114 and it's power supply, thereby running two disk drives from the single ST 5 $\frac{1}{4}$ " drive power supply (in which case, I doubt whether you could use the 5 $\frac{1}{4}$ " drive on the 1100ET, which does not have a separate power supply for it's drive — unless, of course, you installed another power supply). I'm assumed that the SP154 is power supply is up in the task of running two drives, but some does get very hot! The lead to chain the 5 $\frac{1}{4}$ " unit to your 5 $\frac{1}{4}$ " drive (or directly to your ST disk port) is supplied, this being the unusual ST 44 pin 'DIN' plug, but terminated as a PCB edge connector which also has to be fitted to the PCB at the rear of the 5 $\frac{1}{4}$ " unit. The connections of all seem a little delicate, and I certainly wouldn't like to move the thing around too much.

These two connections having being made, you can insert a 5 $\frac{1}{4}$ " floppy disk into the drive, select drive B, and format your disk to use 1000k. You can, alternatively, switch over to C and format it as two 500k 'fippy' floppies (a year's worth!). From there on, other than ensuring that your hard disk disk purchases are no longer a shock to your wallet (or purse), the fact that the drive is 5 $\frac{1}{4}$ " is totally unimportant to your ST's disk controller, and anything that you can do with a 5 $\frac{1}{4}$ " drive you can do with a 5 $\frac{1}{4}$ ".

In use the 5 $\frac{1}{4}$ " is either slow — no slower than most Beek drives, a little slower than the 1100 drive, and a lot slower than the standard ST drives, but although the diskling and pruding is usually a bit shocking, it does

nothing to detract from the efficiency of the drive — and eventually becomes quite reassuring!

Does it mean? I've mentioned the case — can really a problem. The drive also has the strange habit of 'dropping' if you switch off your ST drive before switching off your ST — again, not a real problem. What does present a few headaches, though, is the fact that the 5 $\frac{1}{4}$ " drive tends to be the end of the line as far as ST drive compatibility. Look at the rear of your ST drive, it has input and output sockets, and these enable you to daisy chain two of your drives together. Other drives can be used in any position. The 5 $\frac{1}{4}$ " unit, however, has only the PCB edge connector and onto the plug, the lead terminating at the Amn style drive socket. This can plug into the rear of your SP154, and the 5 $\frac{1}{4}$ " becomes drive 'B'. Alternatively, you could plug the 5 $\frac{1}{4}$ " directly into the rear of your ST (just as you would with an SP154) and use drive A single drive 'A', but it means for me that an old model that was not possible — the drive you wanted 'dropping' whenever I switched on! I'm told that the addition of a few extra components/wires will overcome this problem, but it's not the type of thing you would want to do to your new £300 plus purchase. AS&T tell me that they are looking at the situation carefully, but they don't really consider this to be a serious drawback. You certainly cannot have your 5 $\frac{1}{4}$ " drive as drive 'A' and your 5 $\frac{1}{4}$ " as drive 'B'.

So, what about backing up your 5 $\frac{1}{4}$ " disks? You've connected up your 1000 SP154, and your 1100 5 $\frac{1}{4}$ ", you've put up all your favourite Degas and Neo screens onto a couple of 144k 5 $\frac{1}{4}$ " disks and you then want to do some back-ups of these disks for a disaster situation like a 5 $\frac{1}{4}$ " drive a few files at a time or you can copy over to a low blank 5 $\frac{1}{4}$ " disks and then copy back again to your blank 5 $\frac{1}{4}$ ".

Advantages? Well, if you have not used a 144k drive before — a great 1000k box form was formatted (usually 11.5k) more than two single-sided disks! I saw that due I can use the Digital Research 'C' compiler and linker from a single disk, obviously spending up computer time, means (I can't imagine that) Microbit II users would have the same benefits! Data is much cheaper, file transfers are much easier than with a single drive and I wouldn't be surprised if when the CP/M emulator is freely available, you will be able to read various CP/M disks on the 5 $\frac{1}{4}$ " drive (especially since a 40-bit track search is available as an optional extra at time of purchase). I noticed no difference in speed of operation between the SP154 and the AS&T drive. Both are capable at 180 rpm per minute and both appear to load ST disks at exactly the same amount of time.

Conclusion? — I've bought one, and although I've had a bit of a scare about the problems of backing up a 100k disk, I certainly wouldn't put this in or camp at all as SP114. My disks are cheaper, I can get twice as much on them, I've found many of my 5 $\frac{1}{4}$ " disks by putting unpermitted programs onto 5 $\frac{1}{4}$ ", and I've saved £30 on Amn a price for a 144k drive. On reflection, I'm quite happy to put up with any of the drawbacks I've mentioned, and the AS&T 5 $\frac{1}{4}$ " ST drive gets my wholehearted recommendation. ■



In the beginning adventures were plain text. Master of the game like *Infocom* quickly took these to high levels of sophistication but people still wanted more. Graphic adventures came along where locations were illustrated with pictures but these tended to add little to the adventure save for the occasional clue to be found in the pictures. Software writers used these based on 'textual adventures' where the traditional style was replaced by 'action' - if a limited picture - but few of these could match the breadth of a text adventure and none were that good, generally. The obvious answer, for those who wanted more than text, was a good adventure with top class graphics and animation. Now Sierra On-Line have come up with just that - animated adventures - and *Kings Quest II* and *The Black Cauldron* are a couple of cockles!

What computers have struggled to do on 8-bit machines become fairly easy on an ST with 16 colours at low resolution (the equivalent of 4-bit high resolution) and both these adventures have excellent illustrations, although still based on the style developed for 8-bit machines, and full animation with the main character able to walk and run, go behind or in front of doors and such like. Other characters, who appear at random in according to location, are also animated in one various wacky objects such as a man, woodcutter and wizard. It is all quite different from what you are used to and has most perceptions of delight through all those I know who see it in the first time.

## KINGS QUEST II

*Kings Quest II* is the best I can not say if there is a *Kings Quest I* for the ST) of the two and comes well boxed with a booklet containing an outline of the story and some poems which will help. Really it is a nicely embossed and illustrated booklet which gives the rest of the story of *King Graham* and his quest to find a bride and so comes as far as the theme of *Deceitery*. The story is not particularly strong and the theme of *Deceitery* (Deceitery sounds as exciting as *Wagon*) but it will still do all but the most advanced adventures and game experience the joy of discovering new locations and action.

Your hero can be controlled by joystick or from the keyboard and is able to walk in any direction as command *direction* are supplemented from the keyboard by typing in the usual commands such as look and get. Using the joystick or keyboard is one of the major departures from the normal format for the program does not recognise words like North and South. Quite frustrating if you unexpectedly look up the desk and begin to play! Old villains characters will appear and you must learn how to deal with them and you must explore everything in the world before. Points are earned for every little discovery as you continue your quest and get deeper and deeper into the game. I've played it a few times now and each time the action has been different so that holds promise for continued interest.

I'm not a great adventurer and therefore find the game a sufficient challenge (I can't really say how complex the plot is) but what keeps me on it is the continued discovery of more superb graphics and I expect many 'non-adventurers' will be converted to this. There are a few gaps, such as a limited vocabulary and the need for each scene to load from disk in a screen is caused but the program as a whole is so far ahead of any other graphics or word adventures that these must be considered just niggling. Mind you with a hard disk check how fast it would be!

## Les Ellingham tries the next generation of Adventures

### THE BLACK CAULDRON

The *Black Cauldron* contrasts the style but shows immediately how the programmers have learned from their experience in programming for the ST. *Kings Quest II* is very, very good but *The Black Cauldron* is much better. The major improvement is that the whole game can be played with the mouse which improves the flow of the game considerably. While it does inhibit the type of response you can give to such actions I find it to be a altogether more enjoyable. One problem with the *Infocom* games that use both joystick and keyboard is that it is often awkward to keep changing between the two but *The Black Cauldron* overcomes this splendidly. That's not the only thing that is better, the graphics are much improved, the animation smoother and there is much more movement of secondary characters. There are not many changes but subtle improvements that give this game a much classier feel.

The story is based on the Walt Disney film of the same name and your appointment of the adventure will depend to a degree on whether you like the Walt Disney style of cartoon. It has got into the film, and would not go out of my way to do so, but will found the game to be quite enjoyable. This is true fantasy having been based on one of a series of books by Lloyd Alexander and, while written for children, has many of the elements of *Tolkien*. The story is basically the search by a small boy *Taran* for *The Black Cauldron* to stop a killing man the hands of the evil *Hermod King*. Aided and abetted by *Howl* *Wyn*, a pig with magic powers, he must find *The Black Cauldron* and stop the *Hermod King* from capturing *Howl* *Wyn* who alone has the power to locate the cauldron. If a

## PRO-PASCAL

Prospero Software

Reviewed by Mark English  
and Adrian Merwood.

The PASCAL programming language was developed by Niklaus Wirth during the early 1970s. It was primarily designed as a teaching language encouraging the use of structured programming techniques. Although presently developed for use as a standard the language has been adopted widely in industry and a PASCAL compiler now exists for almost every make of computer. An international standard for the Pascal language has been defined by the International Standards Organisation (ISO), which also developed a suite of validation programs which are used to demonstrate that the compiler conforms to the standard.

### THE COMPILER

PRO PASCAL is a full implementation of Pascal conforming to the requirements of the ISO standard (ISO 7189). The compiler also includes a number of language extensions. These include string handling, double precision floating point arithmetic (IEEE format), random access files and dynamic compilation facilities. To assist the writing of portable Pascal programs an option is available to produce the use of these extensions.

The compiler runs from the Desktop as a TOS application and in each makes full use of GEM facilities. Compilation speed is quite good. The compiler requires two passes to compile a source program to produce a link file. During compilation messages are displayed showing the progress of the compiler through the source file along with any errors encountered. The messages produced may be optionally written to a log file. The error messages produced are quite explicit giving an error number and displaying the line that is in error. The compiler produces both files in the readily used GST Linker format. It is possible to link Pascal sources with sources written in assembly language and PRO-Format T7.

The disk supplied includes the Pascal compiler, the linker, a system configuration program, a libraries program

to enable the creation of custom libraries, a number of linkable libraries, and a program cross reference. Also included is PRL (the Prospro Runtime Library) in the form of a separate program which must be executed before the compilation runs will function. This is identical to the run time system used by Prospro's Pro-Format T7 compiler. We thank the reviewers expressed by Matthew Jones as his review of Pro-Format at issue 33.

### THE LIBRARIES

The libraries included with the compiler include routines giving full access to the GEM APLS and VDI, and GEMDOS. The routines supplied closely resemble the standard C functions naming conventions as described in the GEM documentation. User alterable bindings to these routines are supplied on the system disk. Additional routines include memory management, random TREET files, program cloning etc.

### THE MANUAL

The manual comes in a smart blue ring binder. It contains three main sections. The first gives fairly good introductions to the Pascal language, although a beginner would probably require a good Pascal teaching guide. The second section gives a detailed description of the Pro-Pascal implementation of the Pascal Language. This section includes a guide to the use of the supplied library functions, including the various GEM calls. The third section covers the installation and operation of the various elements of the Pro-Pascal system.

### CONCLUSION

Pro-Pascal is a good implementation of the Pascal language which includes a number of useful extensions to enable the programmer to produce powerful systems making full use of the facilities made available by the ATARI machines. At £190 the compiler, though not as cheap as some, is good value for money.



wouldn't too childish, don't let that put you off. If you have children, buy it for them (or yourself). If you don't, who cares what people think, buy it anyway.

The class of this game extends to the packaging for found into the portfolio box is a beautiful 18 page booklet, in full colour, illustrated with scenes from the movie. It really is splendid! And you get a map of the landscape as well as handy other papers to help you play or otherwise enjoy Sierra products.

With these two games, Sierra On-Line have opened up a new era in computer games, with the promise of even better things to come. As time we are approaching the true use of the home computer as an art form as we speak right. Almost cartoon, not quite but pretty close. These have to rank way up at the top for the way in which they use the graphics of the ST and you may well look back on them as the future as examples of a new departure in computer games.

Sierra On-Line products are now distributed in the U.K. by Merwood's so these should be easily available from your local dealer or by mail order.

## HOMEPAK Batteries Included/Ariolasoft

Reviewed by John S. Davison

What do you get when a well-known game author turns his attention to producing a serious applications package for the three Amiga? Well, that author is Russ Wiersma of Froggs fame, the result should be something special, and it is. Originally released in the USA by Amiga Inc. Included, HomePak has now arrived in the UK by courtesy of Ariolasoft, priced at £149.95.

HomePak is not one, but three programs. It consists of HomeText, a word processor, HomeFind, an onscreen database program, and HomeForm, a telecommunications program. They're packaged on a common disk, allowing you to merge items from HomeFind into a document you're preparing with HomeText, or use HomeText to edit files and messages you've received via HomeForm.

Language applies to the 'human factors' aspect, too. They all have the same visual style, use similar (slightly easy) window and mouse protocols and messages, and text functions. All three programs are very flexible, using windowed screens and lots of helpful messages when you need them. The bottom line here on the screens are used for displaying messages, prompts, and various program outputs, with small details varying by program.

HomePak comes packaged in a black plastic box, rather like the library box you get when you buy 10 blank disks. This has a smart, substantial slip-on cardboard cover. Inside you find a single 5.25 disk containing the programs, and an instruction manual. The manual is physically small, measuring about 3 1/2" by 5 1/2" and contains 62 pages (but couldn't be printed in a tiny font). The printing is around the high 60 degree, so you have to turn it sideways and open it away from you to read it. Its small size and method of binding means it won't stay open at the page you want. Physically, it's a bit of a disaster.

### HOMETEXT

This is a standard level word processor, falling between the ultra simple such as Cut & Paste, and the heavyweights like PaperClip and Letter Perfect. It has most of the features you're likely to need for general home use. It's got a good range of editing facilities, with all of the expected features present. Erase and undo cursor stop at start or end of line, screen or document, turn words-wrap and choice of insert or overwrite modes. Previous the ST&LT key sets up a small window containing actions for block move, copy and delete functions. Search and replace is also available from here. You're guided through the operations by an onscreen messages, so you can't really go wrong.

Text formatting codes are accessed from a windowed menu. Unlike most word processors, HomeText doesn't put arbitrary control codes into your text. It inserts an abbreviation of the command as screen code, so you can tell at a glance exactly what it does. It does all the usual things, like adjusting set margins, line and page size, and line spacing, centering, blocking and justifying. Your text can be printed full-size, extended, or underlined, with facilities for customizing the codes for your printer. Any other special



requirements, like document forms, have to be done with the printer's own. This is a pity, as it detracts from the general ease of use of the program.

Further choices allow you to force end of page, specify page headers, footers, page numbering, page size (two single sheet pages), and chain to another file. You can also merge in data from HomeFind, giving you a real merge facility, should you need it. Sadly, there's no automatic paragraphing, one of the few facilities missing.

Another windowed menu provides file manipulation options, such as find, save, delete, directory display, and append another file to the one currently in memory. You can also preview or print the current file from here.

The preview facility is handled graphically. Instead of showing your text, words are represented as black bars, with special features such as underlining shown in different colors. This is not the same as having a full text preview facility, but it seems to work quite well for checking overall document layout. The only snag is that it needs 16KB bytes of free memory to work. As you only have 660K bytes to start with (not 512K as stated on the manual), it means the feature virtually works here. However, there's a facility to preview a document of any size from disk rather than memory, so this isn't around the restriction if you save your file to disk first.

The more I use HomeText, the more I like it. It's got lots to offer the casual user, and it's flexible. The only serious shortcoming concerns lack of memory. For documents over about 2 pages you have to resort to writing them in separate files and chain them together. I find this a nuisance, so often I want to refer to an earlier part of a document, and maybe even change it to fit in with something I've written later. Constant saving and loading separate files seems ridiculous here. Perhaps Russ Wiersma will produce a version for the UNIBUS which will overcome this. I hope so, as it would make HomeText even more usable. It might even jump me away from my trusty old Laserwriter.

### HOMEFIND

This part has to be the most friendly database around. You don't have to know anything about fields, records and

continued on page 14





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indexing—all HomePac needs to know is the relationship between a subject and its data, and the data itself. You set up and make queries on the database with normally plain English commands, with most other activities available from menus or by prompts from the program at the appropriate time. It's relatively limited as database programs go, but its important design makes it a delight to use, especially for people who normally find computers a little intimidating.

Creating your database couldn't be easier. It's harder to decide what to actually do at all! The data and its relationships are equal to a simple three-part form, like the

**John's Tag & Object**

where

**Subject** identifies the person or item to which the data refers, **Tag** identifies the subject's relationship with the data following, and

**Object** is the data itself.

The apostrophe and *s* at the end of subject and tag are important, as they tell HomePac where the subject and tag end. They also indicate the use of plain English for input. Let's look at a few examples to see how it works.

Imagine we want to set up a database of our friends. We'd probably want to hold their names, addresses, phone numbers, and other personal details. Straight away we can begin entering the data, at any order, with our own choice of tag name.

Mike's surname's Taylor  
John's surname's Burton  
Bill's surname's Whinnor-Smythe

If a subject or tag aren't already in the database, HomePac responds with a query "wants to see" message, and you choose whether to add it or not. This process is repeated for each line of data input. If a subject and tag already exist, then HomePac handles the data immediately without further user interaction.

You might decide to enter addresses next, so your input could look like this:

Mike's address's 1, High St, Brighton

This time the subject's already in the database, so HomePac can handle it. However, address's is a new tag so you get a prompt for permission to add it. In this way you can add any detail with its own tag to build up a collection of related data about each of the subjects. You don't have to have the same tags for all subjects, just include whatever you want to use for your purpose. And that's all there is to setting up a basic database!

You can update your database at any time. To add new subjects or tags, simply enter data as described above. There's also a facility for deleting object data to data already there, or for replacing old object data with a new version.

Deletes mean a lot of a pain, so the manual doesn't say anything about removing obsolete data! It seems you achieve it using a variant of the replace data procedure, an effort giving each tag and data. Subsets and tags having only null data then have to be temporarily deleted by "compacting" the database, available via one of the menu options.

HomePac's data retrieval features are so simple to use as the data input facilities. To display all object data about a given subject, for example Mike, you need only type

**Who's Mike?**

HomePac replies with

Mike's surname's Taylor  
Mike's address's 1, High St, Brighton  
Mike's birthday's 15 January  
Mike's computer's Atari 130XE

and so on.

You can ask for any detail, using the words "what"

where, where is "where. For example

where's Mike's birthday,

what's Mike's computer,

and HomePac will reply with the appropriate detail.

Actually, the words "what", "where", etc. are only included for clarity — the internal works without them.

Retrieval can also be achieved using the tag alone, the object alone, or the tag and object. For instance, you could key in: who's computer's Atari 130XE, and get a list of all subjects with an Atari 130XE. Or you could enter "computer" and get a list of all subjects with a computer. Respectably, there's no wild card feature, a serious omission reducing the usefulness of HomePac somewhat.

HomePac's print facilities consist of a printer ON/OFF toggle! The printer has "retreat" screen output, i.e. it prints what goes to the screen, but it does not progress, error messages, and the like. There are no facilities for producing customised reports or address labels directly, but you can extract data and write it out as a DMS file. This can then be loaded into HomeTerm and processed as you wish.

HomePac is not meant to be a full featured database program, being limited in scope and facilities. But it's elegant, friendly and very easy to use, and could be all you need for home home or school applications.

## HOMETERM

HomeTerm was designed for use in the USA. Unfortunately, for UK use it's lacking in certain areas of use, these being modem interfacing and split transmission rates for use with Proton, Marconi, and other services using 1200 75 split baud rates.

I tried using it with the Marbit Technology Datacom interface and W2000 modem and could get no further than the cursor screen displaying the message "Modem Error". Pressing any key here did result in the ending of the HomePac main menu. Calls to Amsoft produced no replies, but they promised to contact with the Datacom and call me back. It's data I've had no reply.

The instruction manual says HomeTerm's designed for use with Atari 130 and 130XE machines, which aren't available here. You can use any other medium via the Atari 850 serial interface, but this device seems to be as rare as hen's teeth in the UK. It mentions the set up procedure required for the HPF modem (Japan, USA only), which uses a custom IC handler to simulate the HPF's RS-232C handler. It seems likely that something similar's required for the Datacom. Anyone out there know of one?

For the moment, the best I can do is to describe HomeTerm's facilities without the benefit of personal experience. At least that will be helpful to the lucky few with an HPF interface at their disposal.

HomeTerm has three operational screens. One is for interactive use, when you're online to another computer. The two other screens, like automatic wordwrap to prevent breaking a word across two lines, and a 120 character edit buffer (so when you can key your message, and edit it before transmission). The other two screens are menus, one being the Function Menu from which you control the program's main functions, such as file upload/download, etc. The other screen is the File Menu, giving you a "save" (DMS) facility. This allows you to format a disk, list directory, or copy, delete, rename, lock or unlock a file, all without leaving HomeTerm.

HomeTerm handles transmission rates of 300 to 1200 baud only, on full or half duplex mode. It can also handle five different transmission coding methods (paracode), these



Using standard ASCII for general use, ATASCII for use when needing Atari special characters, strange text, etc. Useful for use on the USA's famous CompuLink, Information Systems, and Nanodem, the transfer protocol for uploading/downloading of files to/from other computers.

Files of any length can be transferred via upload/download. Hosts/Terms automatically separates outgoing or incoming files into TK (tracker) sized chunks, rearranging the transmission to feed from or write to disk as required. The buffer can also be used to capture anything appearing on the screen. Then you can dump it to disk or printer for later reading, or back to the screen for instant review.

Hosts/Terms has a number of other good features, including a real time resizable clock for timing those long duration calls, and a menu facility for automating regularly used character sequences, such as for logos.

In that's Hosts/Terms. On paper it looks excellent, but until the interface problem gets fixed, there's no way of knowing for sure. As far as I can tell, the only thing it lacks is a split baud rate for Protocol type services, and that may be expensive to some people.

**CONCLUSIONS**

Hosts/Terms is a fine case of software. Given a working version of Hosts/Terms, you get three completely usable applications for less than £10 each, a bargain at anyone's terms. If Armitage could fix the interface problem, provide Protocol support, and do something about that awful manual, the package would be admissible. Even without, it's still a very good buy.

# BITS & BYTES

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## CUT & PASTE Electronic Arts/Ariolasoft

Reviewed by John S. Davison

Cut & Paste is one of the growing number of word processors tailored for the 8-bit Amx. It's produced by the much respected Electronic Arts of the USA, and is available in our American version on Commodore, Apple and IBM PCs as well as Amx. It's distributed in the UK by Ariolasoft, and costs £34.95.

Cut & Paste comes neatly packaged in a hard plastic box, which opens like a book to reveal two single-sided disks and a glossy 17 page instruction manual. The program disk contains the Cut & Paste program, while the data disk contains a number of sample documents. These include a letter, memo, and business letter, the idea being that you type your text over that as the example, so helping you get the correct format.

The manual isn't as comprehensive as it looks at first sight, as the first half of it contains four sets of instructions covering the four makes of computer mentioned above. The rest of the manual covers general topics common to all of them. It's easy to read, but going through it I got the feeling it must be missing out a lot of the program's facilities. Was this an oversight, or were they really missing? I decided to write this review using Cut & Paste to give it a practical test.

Boot-up of the program disk revealed certain irregularities — an error message telling you what to do, and a menu bar along the bottom of the screen with options chosen using the arrow and RETURN keys. All the menu items are shown in inverse video, so to select a particular option you have to 'de-brighten' it with the cursor. I found this fiddly and slightly irritating at one.

One of the design principles of Cut & Paste is that the commands you use most often are the easiest to perform. In practice, this means that you only have to press ESC to access the menu bar, then RETURN to perform the command, as the cursor is usually already positioned over the most used option on that menu. Full marks to the author for the ease of thoughtful design.

No marks for the next feature, though! Cut & Paste's files are held on-disk in a non-standard format, and there's no facility provided for converting them to DOS files. This means you can't manipulate the files with DOS, protect them with either and give such as spellcheckers, or merge them with Amstarwriter files. This, frankly, is appalling. Unnecessary use of custom formats is necessary a pet hate of mine.

The file really bugs when I tried to make use of the edit screen. Like Amstarwriter, Cut & Paste operates in insert mode, so covering mistakes involves deleting characters rather than typing over them. But miserably, Cut & Paste doesn't use the delete key — you have to backspace over a character to delete it. I found this very clumsy and unaccustomed to practice. In fact, the only other editing keys which work are the arrow keys. Attempts to cut anything else result in some like a ball straggled down from the speaker!

For deleting larger amounts of text you could use the much requested cut and paste feature from which the program takes its name. The feature does work quite well, allowing you to mark text, cut it into a buffer, and then paste it back into your document at any point (multiple times if you wish).



The text stays in the buffer until you make another cut, or clear the buffer manually. It also says there's some a document limit, so you can cut from one document, load a new document in, and then paste the buffer contents into it a next time.

To begin the review I wanted a centered, underlined title. However — there's no centering function, or any way of underlining! I like to begin paragraphs with a tabulator unless on the first line only, and separate the new paragraph from its predecessor with blank lines. Cut & Paste can do this automatically unless, you have to do it by hand. There is an indent facility, but it indents whole paragraphs. You can't use it for smaller units of text.

Having typed in the review, I wanted to preview it on the screen. Not possible. OK, so print it out. Selecting PRINT from the menu bar brings up a full screen print menu. This has the usual facilities for modifying margins and page setup, line spacing, page numbering, number of copies, and single/multiple/multiple selection. You can also supply a page header in the print list but a feature I unfortunately find a waste of space on the document file, so next time you load and print the document, you have to remember to type in the header again.

One of the few good points in Cut & Paste's favour is its handling of underlines and symbols. These are items used in the publishing industry — you may not have heard them before, but if you've used a word processor, you should certainly know them by sight. A underline is the last line of a paragraph which automatically goes on the first line of the next page. An symbol is the reverse of this, when the first line of a paragraph prints on the last line of a page. Both give your program an early appearance. You normally have to deal with them manually, but Cut & Paste automatically detects and corrects them. Also, if it finds a single line paragraph it assumes this could be a heading for the paragraph following, and ensures both are printed on the same page. This I like!

There are also facilities for right margin justification, or for editing first or other special headers over printed ones after. If you want to use a Head Letter Quality font for your first copy, head back!

A feature I had expected in a word processor is the search function. We lost it, locating a particular point in a document can be very tedious and time consuming. Guess which word processor doesn't have the feature? Right! I find it difficult to name any such areas for this program. It is few good points are far outweighed by its many bad ones. In action, it seems slower than electronic typewriters than a comparatively slow processor. But then on the front of the box it does call itself 'The Remarkably Simple Word Processor'. If you want something so quick to compare the odd letter or page of notes, then Cut & Paste could be for you. For anything more complex, though, you would be much better off with one of the many other word processors now available for the 8-bit Amx.

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## Review

### Solo Flight Microprose (distributed in the U.K. by U.S. Gold) 48K disk or cassette

Solo Flight received a full page review in Issue 17 and I was not therefore going to review this slightly enhanced re-release, however I booted it up just to have a quick look and was so enthralled that I just had to write something!

I have tried several flight simulators in the past and have found almost all of them to be virtually impossible due, it must be said, more to my impatience and inability than to any program design faults. So it was with the usual resignation to half an hour's frustration that I pressed START to begin my flight. To my amazement and joy, it was easy! An on-flight instructor 'talks' you through each stage of the flight and by following his instructions and checking your instruments, you can fly! I took off, climbed, banked and generally flew around before re-approaching the runway to attempt a landing. With the instructor talking me down I approached the runway, lowered landing gear, applied flaps and missed the approach! Never mind, pull back on the stick, increase throttle and come round again for another try. This time, with

some finer controls and a little more experience, I landed. Brakes on, engine off and there I was back on the runway. It really gave me a sense of achievement and was quite one of the best little episodes on the Avion that I have had for some time.

The program includes much more advanced flying and you can switch off the instructor. There is also a Mini Pilot game included for you to practice your flying skills. The criticism in the original review seems to have been attended to, the instrument panel for instance is easy to read, and I would not hesitate to recommend this to anybody.

If you want to experience the thrill of flying with a simulator that you really can fly first time, then this is the one to go for. Believe me it really is a joy!

Les Ellingham

#### WARGAME WANTED

Do you have a good collection of wargames? Could you write an overview of wargaming on the Atari? As well as paying for the article, we will send review copies of any new games simulations we receive to the author of the article accepted for publication. Interested? If so, get in touch with the Editor now.

# SMOOTHER

If you have written any programs that use Display List overtraps, you may have noticed that you often get "bushes" or interference with the DLI when using the keyboard or during other processing. This is a well-known problem and has come to be known as the "keyboard glitch." It occurs every time an IRQ occurs to have signaled out a way of programming around this. Consider the following extract from Mapping The Atom.

One small problem with using DLI's is that the key-board "bush" routine interferes with the DLI by changing all the settings, since the clock is provided by several calls to the WSYNC register in HMR3. Chris Campbell discusses several solutions in *De De Atom*, but the easiest of them is not to allow input from the keyboard.

That's not exactly what if you want a complex game to use the keyboard as well as a joystick, so let's have a look to see what else we can do. Firstly consider why the glitch occurs in the first place. It is because a STA.WSYNC occurs at some other process which interferes with the DLI timing. During a DLI no other interrupts can occur so the following STA.WSYNC must occur outside the DLI. If therefore we could synchronize directly to the display during a DLI, the glitch problem would be resolved. We can in fact do this by starting a DLI early, then waiting for the vertical line counter (VCOUNT) to reach the required scan line value before performing the normal DLI processing.

As an example, let's consider the case where a DLI is to start the foreground and background colour registers in the middle of a Graphics 0 display. Firstly we must determine the value of VCOUNT for the scan line at which we wish our DLI routine to commence. VCOUNT operates in double line resolution and for every Graphics 0 mode line we increment VCOUNT by 4. After 12 Graphics 0 mode lines, therefore, VCOUNT will have been incremented by  $4 \times 12 = 48$ . The value of VCOUNT just before the last scan line is 15 and therefore the value of VCOUNT for the end-point of the screen is  $15 + 48 = 63$ . The following lines are inserted at the beginning of the DLI after setting any register values into the stack.

```
SCANLINESYNC  
LDIA VCOUNT  
CMP#63  
BNE SCANLINESYNC  
STA WSYNC
```

Notice that we have tested a STA.WSYNC once the end. This is because VCOUNT operates in double line resolution and the loop therefore increments one scan line too early (the STA.WSYNC occurs later).

All that now remains is to see where the DLI occurs in the display list. Normally for a DLI to occur in the middle of a Graphics 0 display we would set bit 7 of DL+36. The minimum scan line, however, occurs some time before so we set bit 7 of DL+45. It could in fact be set at any point prior to DL+44 but DL+45 is the most efficient in terms of

# DLI's

## Paul Lay shows how to get rid of the keyboard glitch

### processor utilization

The DLI is a snag problem is now solved, however there is a further problem with respect to DLI's which isn't often considered and that is all shadow registers are copied to their hardware counterparts during the non-control stage of the Operating System's initialization VBI (where interrupts are enabled). If an IRQ occurs during the period, the hardware registers will not be updated. Thus if a colour register is stored at the middle of the screen and the hardware registers are not updated because an IRQ occurs, then that register will remain uncorrectly as the colour was set by the VBI.

We can overcome this easily by setting up our own immediate VBI to copy the shadow registers into the hardware registers, which is called by the operating system during its immediate VBI control stage, and hence is always reserved. This is how automatic is performed whilst games are loading, for example on Accurate's *December* or even Big one Software's *Spring*. In the sample program I have given, I have only updated the colour registers in my immediate VBI as these are all I have changed. If any other shadow

```
05 0 00H *****  
06 0 00H H    RELOADING THE REGISTER M  
07 0 00H H    CLEAR by Paul Lay M  
08 4 00H H PAGE 8 Register 00  Erased M  
09 0 00H *****  
10 0 00H *****  
11 00 00H *****  
12 00 00H *****  
13 00 00H *****  
14 00 00H *****  
15 00 00H *****  
16 00 00H *****  
17 00 00H *****  
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28 00 00H *****  
29 00 00H *****  
30 00 00H *****  
31 00 00H *****  
32 00 00H *****  
33 00 00H *****  
34 00 00H *****  
35 00 00H *****  
36 00 00H *****  
37 00 00H *****  
38 00 00H *****  
39 00 00H *****  
40 00 00H *****  
41 00 00H *****  
42 00 00H *****  
43 00 00H *****  
44 00 00H *****  
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92 00 00H *****  
93 00 00H *****  
94 00 00H *****  
95 00 00H *****  
96 00 00H *****  
97 00 00H *****  
98 00 00H *****  
99 00 00H *****  
100 00 00H *****
```



# SUPERCLOWN

by Michael Kempster

Big Super Clown! His face is at your hands as you manoeuvre his transpiline so smart that he can bounce up and land the balloons. If he misses the transpiline, oops! Another clown will have to take his place but there are not that many clowns (only 249!) in the cast. Super Clown is one of those addictive games, like Breakout, that will have you coming back for "just one more try!"

## TYPING IT IN

If you use a disk drive, you load Super Clown only the main game and save it with a RETURN of your choice. Then just type RUN "D:\yourchoice" and you're done. If you can connect your own alternate type the main listing using CREATE and READ. Do as usual but you might like to change the leader routine in Listing 2 which gives you a display, and if you can't handle the main program, if you want to use the leader, type this first and save it as type with SAVE.CP. Then type in the main listing and save it normally after the first listing using CREATE. Forward the corrected listing to "C". The program will automatically load and play.

Who knows, you may save the game. Good luck! You can TYPE to check the listing.

## PLAYING THE GAME

A brief title screen will appear while the graphics are defined followed by the playing screen and the words PERAS START. You may change levels at this stage by pressing the SELECT key. Every two levels the transpiline will decrease and more points per balloon can be scored. To begin play press either START or the fire button on the joystick.

At the start of the game, the clown jumps off the transpiline and up towards the rows of balloons. You can control his direction by moving the transpiline before the clown bounces off. Moving the transpiline to the left will make the clown go leftwards as he bounces up and moving the transpiline to the right will make him go right. Just for a change, the clown will sometimes bounce straight down from a balloon instead of at an angle, so be prepared.

Score levels are awarded, depending on the level, at 1500, 2500 and 3500 points but this will depend on when level you reach.

The 249 clowns have to land all the balloons. When it's not left, the high level begins and the transpiline is shortened. To pass a game just press any key and use the fire button to start.

That's it! Good luck, save the game, and when you next read my high score of 15,000!

```

01: 4 000 *****
02: 4 000 *          LINES 01,000   0
03: 4 000 *          "          "   0
04: 4 000 *          "          "   0
05: 4 000 *          "          "   0
06: 4 000 *          "          "   0
07: 4 000 *          "          "   0
08: 4 000 *          "          "   0
09: 4 000 *          "          "   0
10: 4 000 *          "          "   0
11: 4 000 *          "          "   0
12: 4 000 *          "          "   0
13: 4 000 *          "          "   0
14: 4 000 *          "          "   0
15: 4 000 *          "          "   0
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18: 4 000 *          "          "   0
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93: 4 000 *          "          "   0
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96: 4 000 *          "          "   0
97: 4 000 *          "          "   0
98: 4 000 *          "          "   0
99: 4 000 *          "          "   0
100: 4 000 *          "          "   0

```





## F.C.C. Systems' PRINTER INTERFACE

A while ago there were a number of interfaces around for connecting your Atari computer to a non-Atari printer but most of them seem to have disappeared or have become very hard to locate. Atari's own 850 interface has an almost mythical quality of suddenly disappearing from the face of the earth, returning in 'plenty' and yet mysteriously disappearing again. So what are we left with?

One of the interfaces which has been around for some time now comes from FCC Systems but one or two disappointing comments seem to have been made about it, so we borrowed one from Wootton Computers to test. Compared to the 850, it is almost unassuming, comprising of a standard cable with the interface built into one end which plugs into the printer. This part measures just 60mm x 60mm x 20mm and is quite unobtrusive behind the printer. The cable is a generous 4 feet 8 inches and should cause you no problems with any of your peripherals. The only point to bear in mind is that it must be the last in a 'chain' of peripherals as there is no additional I/O cables. This will only cause problems however for those with the old style 400 carts as necessary. It works perfectly well plugged into any of the I/O ports, even that on the 850 Interface!

The only way to see if an interface is suitable is to print different characters through it. It had no problems in handling all 256 ATASCII characters sent individually to the printer and was able to successfully handle graphics in the form of the images used in the magazine as well as screen dumps from different graphics modes. These were tried on an Epson 8000 as well as a totally non-Epson compatible NEC 8025A. No problems at all with either.

So what rumours there have been about the unsuitability of this interface seem to have been dispelled. There is no reason to suspect that you will have problems. There is no additional software, just plug it in and forget it. That is exactly how an interface should behave!

The FCC Interface costs £59.99 and is available from Wootton Computers in Croyde, from your local dealer or direct from FCC Systems.



**BARGAIN ATARI SOFTWARE**

PROJECT NAME	R.P.P.	PRICE	CODE
ATARI BASIC			
ATARI BASIC II			
ATARI BASIC III			
ATARI BASIC IV			
ATARI BASIC V			
ATARI BASIC VI			
ATARI BASIC VII			
ATARI BASIC VIII			
ATARI BASIC IX			
ATARI BASIC X			
ATARI BASIC XI			
ATARI BASIC XII			
ATARI BASIC XIII			
ATARI BASIC XIV			
ATARI BASIC XV			
ATARI BASIC XVI			
ATARI BASIC XVII			
ATARI BASIC XVIII			
ATARI BASIC XIX			
ATARI BASIC XX			
ATARI BASIC XXI			
ATARI BASIC XXII			
ATARI BASIC XXIII			
ATARI BASIC XXIV			
ATARI BASIC XXV			
ATARI BASIC XXVI			
ATARI BASIC XXVII			
ATARI BASIC XXVIII			
ATARI BASIC XXIX			
ATARI BASIC XXX			

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 10% V.A.T. IN ADDITION

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## Don't lose your programs

# VERIFY!

One of the problems that cassette-based systems suffer from is loading errors. This IBM masterpiece that you have just **CHAVE!** if you won't look, and unfortunately pressing **RETURN** just **ONCE!** after typing **LOAD** dumps the program instantly in memory. No chance to try again!

The safety procedure here will help ensure the loading safety of your tapes **WITHOUT!** the loss of the original program, which will remain in memory for you to try again if necessary.

### FOR BASIC AND BASIC XL!

Listing 1 is the Basic XL version. If you have that language then you will need no explanation of how it works, and for the few fortunate that program should be close I would point out though that **DPOKE80!** is the same as **PEEK80!** + **DPPEEK80!** in Atan BASIC, which is the form of access in memory.

Listing 2 is the Atan BASIC version. Please be sure that you type in the correct version. Although listing 2 will function just as well under BASIC XL, listing 1 will not work with the Atan BASIC.

A problem with Atan BASIC is the absence of I/O using the cassette. Using **GET!** or **INPUT!** requires that cassettes have long gaps between records to allow processing time, during which the motor may stop. The long gaps listed on Long Lease Record Cassette allow the motor time to reach the correct speed before the next record is reached. On the other hand, tape predators with **CHAVE!** have short gaps, **END!** follows, thus, the **GET!** command will not be able to process such tapes. We have to use **GET!** for the form of data access rather than **INPUT!** as the latter allows us to read data without regard to whether there are any carriage returns, which will corrupt **INPUT!** The machine code routine pointed to in line 4 captures the cassette buffer capacity enough so that when the routine is called upon by the loop, the Operating System thinks that BASIC has finished processing the information contained within the buffer, so simply that there is no requirement for **LRG!**

Listing 3 is the source program for the machine code. You do not type in this program, it is provided merely for those readers interested in machine code. Please note that this routine is not relocatable as it contains interrupt jumps. It is suitable only to a different program if this is required.

When you have typed in the listing, type in the tape using **LIST "C"!** BASIC XL users should note that strings in quotes are not converted to normal uppercase by the editor, so ensure that you enter strings in capitals where they follow **LIST!** statements where quotes are mandatory. I take it even my listings are lowercase!

## Atari BASIC and BASIC XL listings by Derryck Croker

```

0 GRAPHICS 810000 810000 81.4.100."C"!
Trap 0
1 DPOKE 80,ERRS(000,1000)GOTO 1
2 POSITION 0,0:GT 0:POKE1000,ERRS " " :TAB
  0:CORRECT"!POKE 712,100:GOTO 0
3 1 0 :Tape read error "!DPOKE80!" has 0
  corrected!POKE 712,00
4 GOTO 0:Trap 4000:GOTO
```

### Listing 1 - BASIC XL

```

100 0 DESTROY 70704:GOTO 70 15000000 81.
  (ERRS 0,0,ERRS 0
10 1 80.5!POKEERRS+ERRSERRSERRS!POKE 81.
  Trap 1
20 0 80.5!POKE 81.4.100."C"!TRAP 0
  JW 0 FOR 0:5 50 4500:GOTO 100:80.5!ERRS
  80.5!CORRECTERRS:INKEY 0
30 0 80.5!POKE 100!POKEERRS:GOTO 100 0 "
  45000:ERRS:POKE 712,100:GOTO 0
40 0 1 44!Tape read error "!DPOKE80!" 0.
  00 corrected!POKE 712,00
50 0 CLOSE 81:TRAP 4000:GOTO
60 1 80.5!ERRS(000,100,0,004,00,100,0,100.
  0.4,000,070,01,100,0,0,0,0,00,
```

### Listing 2 - ATARI BASIC

#### CHECK FIRST!

Check the loading ability of the tape by using a **DATA** command, overloading the tape and press **PLAY!** and **RETURN!** The tape will load onto the first 128 bytes of screen memory (listing 1) or the cassette buffer will be shown screen center (listing 2) and will continue until the End Of File (**EOF!**) is reached or a fatal error condition is detected. In this case you will not be able to load the tape later.

If you do run into trouble then check over the levels, copy the tape and patchload one clean and try again. 400/500 users may like to type **UPRINT!** (without a printer present), and ignore the resulting error message before starting the program as shown. This helps overcome a bug in the OS which terminates the operational presence of garbage in the cassette buffer. Errors the program could you are confused with the results.

continued overleaf

## 8 BIT SYSTEMS: MUSIC PRODUCTS FOR THE 48K ATARI

### REPLAY

Replay is a versatile sound creating system which gives you total control of every parameter.

#### Features

- 16-bit digital synthesis from 8K to 15KHz
- Comprehensive frequency filterbank
- 16-bit envelope for each channel over 6000
- 16-bit amplitude for each channel
- 16-bit attack and decay for each channel
- 16-bit release and sustain for each channel

Also included are 16-bit digital envelope generators.

Options: 16-bit digital envelope generator, 16-bit digital attack and decay, 16-bit digital release and sustain.

Inputs: 16-bit digital envelope for each channel, 16-bit digital attack and decay, 16-bit digital release and sustain.

Outputs: 16-bit digital envelope for each channel, 16-bit digital attack and decay, 16-bit digital release and sustain.

### ENDMASTER

A full feature 16-bit envelope for your 48K Atari gives you total control of every parameter.

#### Features

- 16-bit digital synthesis from 8K to 15KHz
- Comprehensive frequency filterbank
- 16-bit envelope for each channel over 6000
- 16-bit amplitude for each channel
- 16-bit attack and decay for each channel
- 16-bit release and sustain for each channel

Also included are 16-bit digital envelope generators.

Inputs: 16-bit digital envelope for each channel, 16-bit digital attack and decay, 16-bit digital release and sustain.

Outputs: 16-bit digital envelope for each channel, 16-bit digital attack and decay, 16-bit digital release and sustain.

### PERFORMANCEMASTER

A full feature 16-bit envelope for your 48K Atari gives you total control of every parameter.

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- 16-bit digital synthesis from 8K to 15KHz
- Comprehensive frequency filterbank
- 16-bit envelope for each channel over 6000
- 16-bit amplitude for each channel
- 16-bit attack and decay for each channel
- 16-bit release and sustain for each channel

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Inputs: 16-bit digital envelope for each channel, 16-bit digital attack and decay, 16-bit digital release and sustain.

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Listing 3 - Source Code

### VERIFY IN USE

Using the utility is very simple. After saving your source program to tape, ENTER the utility so that it merges with the program in memory. If your program uses lines 0-4 (listing 1) or 0-5 (listing 2) then you will have to reassemble it first. Press a RETURN and expect the checking process as described above. You will be informed on the status of the recording as appropriate. Remove the screen borders to record with RESET before re-running the utility.

A tape reporting a load error may be dealt with as discussed, however this case you will have to remove the utility's lines from your program before re-running it.

Because advance disk systems may like to know that they can use the utility to search through any length of tape for help!

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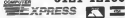


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# MAKING NOISES...

Two sound systems reviewed by Alan Goldbro

## DIGIDRUM/ DIGISYNTH 1 Bit Systems J4.95

Would you like to convert your computer to a programmable drum system or sequencer?

**DIGIDRUM** is more driven, the majority of controls are obtained by using the main function keys. **DIGIDRUM** gets its selection from the main screen which is permanently displayed across the top of the screen. With each press of the function, the highlighted cursor moves from one option to another, left to right. **SELECT** gets its option from the screen just above menu and **START** executes that option. Using these pull down menus may look cool but unless you've got a mouse to click over them, they really aren't much good. I found them slow and cumbersome, if you miss your option five times you'd then hit back to continually pressing the Option button until it's highlighted again. I was constantly frustrated by this procedure which I feel detracts from the ease of use. Don't let my inability to handle the system put you off that program however, as I enjoyed my time as a drummer.

All the sounds you hear within the program were obtained using the 'Replay' Sound Sampling System from the same authors. The eight drum sounds all recorded at 10KHz on an Atari-Dream, Stein, Loewen, Midson, Corebell, Hi-Tec spin, Hi-Tec stored and Clap. **DIGIDRUM** can store up to 25 different patterns using any combination of the drum sounds (these can be constructed, edited and played at different tempo's). **DIGISYNTH** employs the same method as **DIGIDRUM** except that the rate is recorded at 16KHz.

When **DIGIDRUM** starts an instruction reveals all connected to give you hours of enjoyment by constructing, editing and composing patterns to make songs. Functions include, selection from any of 39 Patterns, Wiping (erase), Editing, Playing, changing the Tempo and linking patterns to form Songs. All the patterns and songs can be stored on either disk or tape. If you have a disk drive, a

sequencer can also be displayed, this enables easier editing. Up to 16 files can be opened on disk although the programmer don't employ the same procedure here as they do with the menu. With the menu all you do is highlight your option and press **START**. When looking files though, you have to type in the filename and press return. I can't work out why they don't use the same procedure as the menu.

I would have liked the opportunity to send my patterns to the printer so further study could be done, however, at this price I'm not going to make a song and dance about it (?). The manual is a small concise thingy with 1 page documents which is quite readable but it lacks in-depth information and clarity and I found some of the instructions a little vague.

**DIGISYNTH** is not as complex as **DIGIDRUM** but is still an effective program. Employing the same design structure (and looks) it can handle such functions as, recording, Mixes, Editing, Rate eg, Tempo, Playback and Saving.

Entering the notes is achieved by using the bottom two rows of the keyboard. Taking as by real time use of delete and cursor control keys. As with **DIGIDRUM** whatever you do is seen on screen immediately through a 16 bit grey window, as far as this program there are windows popping up and down all over the place and what's more I couldn't seem to get rid of them. Never mind you always get to see what you are doing.

You will probably have realised by now from the lack of detailed manual contents that I know nothing about these things (like things like notes, staffs, chords and rests but I did thoroughly enjoy myself creating as yet another unfulfilled masterpiece?

The manual is part of the **DIGIDRUM** manual and again is a little sparse. The disk comes packaged in the now almost standard hard vinyl case. All in all though **DIGIDRUM** and **DIGISYNTH** are well worth £4.95 and when you've got tired of trying to beat your last score playing that awful game you could always come back to this and write a different type of score!

## REPLAY SOUND SAMPLING SYSTEM 1 Bit Systems

Real music from your computer??  
Speakers work with clarity??

The Replay Sound System consists of a plug in cartridge and disk or cassette based software comprising of the main program (Replay), sample sound files and supportive programs. All the sounds in the **DigiDrum**, **DigiSynth** package are derived from this screen. **Replay** allows you to produce high quality digital sound through your TV or Monitor speaker. Once a sound has been recorded it can be played back without the use of the **Replay** cartridge.

To create effective and realistic sounds a good quality tape recorder is required to play music or sounds to the **Replay** cartridge on record. The sounds can then be saved to either disk or tape. The cartridge comes with a lead about 15 inches long terminating in a small 3.5mm phone plug which should be inserted in any output socket of the recorder although the manual makes no reference to this whatsoever. I managed to plug it into the headphones socket after first getting a connection with it, like most recorders, the headphone socket was of a larger size than the phone plug allowed.

The **Replay** program itself employs the same menu approach as **DigiDrum** and **DigiSynth**. Functions include, Set up, Wipe, Sample, Play and File as follows:

**Set-up** has three sub programs. **Sample** first lets you select the recording quality rate using the 800,10,11 (by you can choose to record your sample at six different levels from 6KHz (poor) to 21KHz (excellent)). As the quality of the sound improves the less recording time you have available. For example with 6KHz you get 12 seconds and at 21KHz there are only 3 seconds of recording time, but what a superb 3 seconds they are! **Storage** lets toggle the disk create option and **Calibration** which is a handy screen some like a row of LED's to help you select the correct output level of your tape recorder.

**Wipe** - has exactly the same functions as in **DigiDrum**.

**Sample** - having preselected the recording level under the Set-up command this option records the signal sampled at the current sample rate. When **Sample** is selected, the signal from the tape player is visible through the TV. A **Sample Length** indicator shows the amount of time available for the sample sound. Once the **START** key is pressed the sample length starts to decrease and your sound is recorded.

**Play** - as it says, highlight the

system, press **START** and whatever file is loaded into memory is played through the TV speaker. The sounds produced can be altered by going to **Set-up** and changing the **KHz** rate.

**File**—this, usually spoken, is strongly placed. Surely the file needs to be loaded first, then played? I can't understand why the **Play** option is placed before the **File** option, which doesn't seem logical as you have to move the cursor right around the menu bar. **File** lets you load and save your sample sounds to disk in cassette and in the case of disk owners a **Control** is an additional feature.

Once a file has been loaded or recorded the sound screen appears in a window across the width of the screen giving a visual effect of your sounds. A case feature here is an editor function which allows you to scroll from the start of the sound sample to the end. Markers can be placed anywhere between the start and end to let you edit any part the parts you don't want or alternately save only the sections between the markers. If you only use part of the tone limit is 'reversed' you can add on more sounds by moving the editor markers and recording sound from that position. In this way it's possible to edit speech to your own requirements. As with any program this refers to other equipment to provide the conditions to create it, to operate the quality of sample sounds are dependent somewhat upon the quality of your tape recorder.

In addition to the main program there are three sounds ranging from guitar to Captain Kirk in perfect voice! A separate program is **LISTED** to do it to enable sample sounds to be included in your own programs. This comprises a couple of machine code routines and all that has to be done is to find out the start and finish address of the sample and away you go.

The package comes in a plastic case containing a 4 column book with a 12 page manual and even a wooden dowel for the 400kHz cartridge led which has to stay open to allow the lead to be plugged into the recorder. It is available for all 48K computers. For those who have friends among those with any while you're coming sounds, there's something for them too, a simple space invaders game in a **Booklet**.

**Happy Sound Sampling System** will cost you £39.95 for either Disk or Cassette and is available from retailers or **1-BIT SYSTEMS** themselves. The computer was loved by **1 BIT SYSTEMS** to whom I am indebted (this thing is for sure, I've no intention of being without the **Happy Sound Sampling System** for long, I'm off out now to buy one before they all get snapped up.

# MAKING MOVIES

## John Davison becomes a Movie Director

### MOVIE MAKER Electronic Arts Ariolasoft

Here is a program package for people who enjoy using their computer as an aid to creativity. Belonging to the same class of software as **AnimArtist** and **Movie Construction Set**, it gives you the electronic equivalent of a film magazine studio, providing everything needed to produce your own animated video movies. The whole production process is covered, from creating background scenery and characters, through recording the scenes and adding the soundtrack, to the final screening of the finished product.

It comes in a glossy cardboard pack aptly containing two double-sided sheets and an instruction manual. The package opens like a book and the cover is printed with what looks like afterthoughts to the manual.

**Movie Maker** is complex, so a good instruction manual is essential. The 41 pages of instructions supplied get you proficient fairly quickly, though mainly in the control section, however, the programs are driven by menus, keyboard commands and joystick, which can be confusing at times. Knowing what to do when takes a little practice.

**Disk 1** contains the main production programs, and an **outliner** program, which enables you to make a beautiful disk capable of automatically showing any movie files you store on it. Also, six ready-made movies are provided to give you a taste of what can be achieved. **Disk 2** contains four partially completed movies, which you have to finish yourself before you can show them. But there's more — you also have the component parts used in making these movies, including sound and musical effects. You can use them to make your own movies without having to draw anything yourself, a fact explained by the internal section of the instruction manual.

#### Making a Movie

In **Movie Maker** there's a movie camera of a background against which up to six scenes can play their parts, while up to four channels of sound effects and music



enhance their performance. You build it using the four major departments of the studio, these being the **Composing Room**, **Recording Room**, **Camera Room**, and **Screening Room**, corresponding to the four major functions of **Movie Maker**. You're helped by your electronic crew, including the **Director**, **Cameraman**, **Soundman**, **Stage Manager** and **Art Department**. These, of course, represent sub-functions of the major areas mentioned above.

#### Composing Room

Your computer generated movie consists of two basic types of elements, these being background and shape. Backgrounds are exactly that — static scenery against which your characters move. Shapes are the basic elements of your animation, being images of your characters drawn in different positions to represent different stages of a given movement sequence. Shapes' capacity to move across the screen, they give the impression of animated movement.

The **Art Department** provides you with 14 functions for drawing backgrounds and shapes in up to four colours from a palette of 128. Line drawing is achieved with a joystick and/or cursor keys with arrow commands used to perform functions such as colour fill, colour change, and duplicate a shape. Other features include **Movie**, to assist with geometrical shapes, **Zoom**, for magnifying the image for detailed work, and

ATARI 400/500/600XL/800XL

## HIGH SPEED CASSETTE LOADER

**RABBIT** loader loads 40, 80, 160, or 320 tracks automatically every 600 lines loading 600 lines each track (at 400 baud program) - a 500 program needs 600 lines. 60 seconds. Instant volume loading (controlled), automatic program size to load with volume control.

**NEW 800XL** loader automatically converts, unloads tracks, erases, and replaces. Programming 4000 characters per track.

Minimal JIF interface circuit (100 pins max. load).

The loader starts hot, cold.

Changes possible to:  
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**WORLD CUP 1986 (MSK)**  
MSK-1000

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The game will be played on a large screen and the action is fast and exciting. It is a great way to spend an evening with family and friends. The game will be played on a large screen and the action is fast and exciting. It is a great way to spend an evening with family and friends.

**LIVERPOOL (MSK)**  
MSK-1000

P.M. Corporation, 121, 123 Walsworth Road, Bury, BT4 5EN

## SABRE SOFT

### SABRE RACE & SABRE LABEL

SABRE SOFT is the only program for the Atari 400, 500, 600XL and 800XL that will race you through the maze of the Sabre race course and label the Sabre race course.

SABRE RACE

The Sabre race course is a maze of 100 tracks. The Sabre race course is a maze of 100 tracks. The Sabre race course is a maze of 100 tracks. The Sabre race course is a maze of 100 tracks. The Sabre race course is a maze of 100 tracks.

### SABRE LABEL

The Sabre label program will race you through the maze of the Sabre race course and label the Sabre race course. The Sabre label program will race you through the maze of the Sabre race course and label the Sabre race course.

MSK-1000  
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£6.95 - DISK

SABRE SOFT 100, DAMPER ROAD, CHURCHLEIGH, OXF. O51 3EJ

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MSK - £10.00 800/1000

LOWLAND SOFTWARE

1, MOORE AVENUE - BENTON - BATHURST - OXF. OX4 1EJ

Scale to automatically change the width or height of a drawing shape. You may be forced from the keyboard, a text instruction, or drawing text by hand can be a painful experience. Unfortunately, there are no aids to help you draw circles or boxes, or to "rubber-band" of the type found in many computer art programs.

The Director and Cameraman handle functions relating to shape animation and movement, such as expanding the shape to cover the maximum effect, and speed of movement, amongst others.

You estimate the sequences with different settings until you get the effect you want. Then you get the Stage Manager to take you to the Recording Room, where each sequence is allowed to proceed for recording.

### Recording Room

Here, you have what might be termed a set track video recorder at your command. Each video track can record the movement of one actor, or the aim being to build up a sequence between several actors on one track at a time. While recording is done, you can see any other actors you've already recorded, or it's relatively easy to synchronize the new actor's

movements with existing ones.

Recording capacity is 100 frames (individual images) per track, giving playback time up to about a minute depending on projection speed chosen. If you own a video recorder you can build up a longer movie by transferring several 100 frame sections to video cassette, from which they can be shown without a break.

When you finish recording a track, you can play back the scene including the track you've just recorded. If you don't like the result, you simply re-record all or part of the bad track - action or previously recorded tracks remain intact. The Cameraman can be very useful to you here. He can position the recording at any frame, play the recording forward or backward in any speed, and mask a frame so he can record straight to it from any point. He can also zoom in for a close-up of the image being recorded.

The Soundman helps you record up to four separate sound tracks, using pre-defined effects and crossed sounds played from the keyboard. There is no facility for defining your own sounds - a pity, as the supplied ones are rather crude. As with video tracks, each sound track may be recorded separately, but all play back together as the finished movie.

### Cutting and Screening Scenes

It's the Stage Manager's job to ensure your masterpiece is presented in the best manner. Here in the Cutting Room he decides on any filters or selections in the animation, and helps you add fine scrolling titles and credits to the beginning and end. Then, having saved the final product to disk, he takes you to the Screening Room to see the fruits of your creativity. Even here there's a measure of control. Through the Director and Cameraman you can vary the speed of progression, and stop the movie at any frame. This can then be printed in colour on a 16mm printer, if you happen to own one.

### Conclusions

Overall, this is an impressive package. It's fun to use (for the hard work) and even has practical applications. How about using it to produce eye-catching animated advertisements in shops, schools or club meetings, or sponsored shows for educational or business use? The more you think about it, the greater the possibilities become. If you're interested in animation, why not give Mister Mike a try? I am recommend it!











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## FRactal Images

*Peter Clauer's* article last issue generated a lot of interest and so we present a further series of images submitted by Peter shortly after the last issue was completed.

The images with the original article were mainly from the Julia Set but three, with the author's own imaginative titles, are from the Mandelbrot Set. These are considerably reduced from the originals which were produced on an ink-jet printer to give a much denser image than on a dot-matrix.



Your Nails Need Trimming



Cincher Spiral



Dinky Mandelbrot with Adornment



Double Decoart



Katryn Wheel



# BACK ISSUES

**PAGE 4** back issues represent an excellent way of obtaining the enjoyment of your Atari and video articles in magazine form, programs in type-in and reviews of software in guide form. Almost all of the contents of past issues will be as fresh and relevant as when it appeared - Increase your enjoyment now, before it's too late!

**Issue 18 - ADVENTURE SPECIAL.** An issue with Adventures in a new theme with a super challenging type-in Adventure **HOUSE OF HORRORS** - review of our readers' goal for this year. Plus an interview with Steve Avner, a highly complete list of Atari adventures, an Adventure reader, Donnamo Spenser, Science Color and the great assortment of reviews.

**Issue 19 - A great reading year!** **FLIGHT OF THE SWAN** the new one of the winners of our reading/computer program game. **Cannoli, Bambi, Snake and Ball Area.** Also **Music Maker, 1000 Power Header, Player Monthly Graphics** at Mountain Color, Music Reviews and our regular Adventure column.

**Issue 20 - The first coverage of the ST but not to be confused with the 1-800 - A great machine-language game game **SECTOR 13**, a super strategy, Magic, strategy pack of your books and magazines for The Chain. The second part of our series on Display List, build your own Speech Synthesizer, a review of STS, at-depth Adventure reviews and photos and more.**

**Issue 21 - GRAPHICS SPECIAL.** A super special issue with a children game. Drive some computers with **GRAPHICS WORKSHOP** and explore your problems personal with **Color Printer, Printers, Color Screens** and **CGI Window** for an in-depth review of **Friendship and Graphics Art Programs**, the first part of Display List and the software column. 11 pages devoted to the ST plus a column **ARTIST ART** and **ST GALLERY** and the **ST DISCOVERIES** - one of the best games to have been published to any magazine. Don't miss it!

**Issue 22 - A packed issue with games, **TRAIN CRAZY** (Review and Event), **Unites Databases**, **Quick Databases** and **Measuring Temperature** - Programming issue with **Dodge The Imposters, Rover 2 School** and **THE GUIDE TO BASIC CODES** - Review of **Flight Simulator II**, **Hardware's Guide to the Galaxy** and the **Issue Archive** page. For the ST - **DEALS** in HDI reviews, **Lizette C.** reviewed and reviews of a whole lot of software.**

**Issue 23 - More review pages will enjoy **SMART GAMES**, a Year-end list type-in, spreadsheet, and our review of Paperclip which promises will provide you. **Truck 'n' Gun** and **in** reviews **Unites Databases**, **The Guide to Fun Codes** is completed and **STV** are articles on **Etcher**, **Type Problems** and some two well known. **Adventures** - Lots of reviews and other game are included for **Blockbuster**. **ST** users will find our issue on **Program Spans** and our special review on **Time Bank**, **Fun Pages**, **TV ST Professional** and more.**

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# GET THEM ON DISK

All of the more recent issues of **PAGE 4** are available on disk - including those out of print issues!

**A PAGE 4** issue that you cannot use all of the programs (except ST) from a particular issue, ready to run from a custom disk. No drive needed since there's nothing all these being programs. See just how good they are without the effort!

**Issue 18 - Contents:** **COUNTERTOP**, **SLIPPY BUSTER**, **CROSSWORD CREATOR**, **DEPTH CHARGE**, **ACCESS TO GARDEN STREET**, **BASIC ANIMATION** and **TYPOID**

**Issue 19 - Contents:** **THE WANDERER**, **KANGA TICE**, **TOUCH AUTOCAD**, **THE WANDERER** and **PLAYER**, **SMALL GRAPHICS**

**Issue 20 - Contents:** **BLACK BOX**, **PROPERTY AGE**, **IMPROVED TERN**, **THE TRILLED AUTOCAD** and **CHARACTER PLOTTING** programs

**Issue 21 - Contents:** **KITING**, **SHOOTING GALLERY**, **S.O.S. CAR**, **BEAR**, **CARD**, **CASTLE**, **DRAGON**, **MATTHEWS**, **LABEL**, **MARBLE** and several programs on **ANTIC** model 65

**Issue 22 - Contents:** **BIRTH**, **CHANGING PINK II**, **BUZZ LEXER**, **STAR**, **TWO 3** and several programs on Display List

**Issue 23 - Contents:** **SHORTFALL**, **THE CHASE**, **MAKING A VECTOR** & **STARTING UTILITIES** plus programs in the Speech Synthesizer and several programs on Display List

**Issue 24 - Contents:** **BLACKBOARD**, **GRAPHICS WORKSHOP**, **COLORS**, **BEAUTY**, **BELMADA**, **COLOR ATTRIBUTES**, **CGI** **SLIDE SHOW** plus more Display List programs and **Hardware's Graphics Workshop**

**Issue 25 - Contents:** **REVIEWS**, **TRAIN CRAZY**, **FOUR LEFT**, **SCALPMASTER**, **TRUCK**, **THE IMPOSSIBLE QUOTE**, **DISEASER** and **MEASURING TEMPERATURE**

**Issue 26 - Contents:** **SMARTTEST**, **TRACK CLUB** (new version), **HIDDEN DEPTHS** and new version of **BLACKBOARD** (double column disk)

**Issue 27 - Contents:** all of the programs being out of print now!

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\*All styles dress and have a pocket for notes

Some popular printer covers are built on work that must be situated in order. (Please note exact model when ordering)

# Recreation

E R T Y O P A S D D F F O K

D W O R D S E A R C H E D W F

V C X D F R Y J R W E L F Y

## Requires printer.

P S N C K S W O D

## Print your own puzzles with Jim Flewker's wordsearch program

If you enjoy puzzles, here's a chance to create your own hidden word puzzles for your family and friends, or even your own, amusement. The program does require a printer but will work on any 80 column printer.

The program allows you to enter up to 30 words, each of which may be up to fifteen letters, which it then places in a matrix which is 21 characters square. Words may intersect but will not necessarily do so.

As it places the words, the program prints them in normal fashion to the printer and as their placements within the word squares on the screen. Once all the words are placed, a hard copy of the solution will first be printed before the rest of the matrix is filled with random letters to produce the familiar word square. You then have the choice of printing the final puzzle or, if you are not happy with the arrangement, re-running the puzzle to place the same words differently. You may repeat this process as often as desired.

## ADDITIONAL FACILITIES

As well as printing the standard puzzle, the user has other options:

Clues may be provided to guide the searcher in place of the usual list of words. For example, French words could be used in the puzzle and the searcher could be provided with clues in the form of their English meanings. Each clue can be up to three lines of text but if you wish to use longer clues you may change the dimensional length of CELLS.

The difficulty of the puzzle can be controlled at the beginning of the program by selecting whether words can be placed diagonally or backwards. The default allows words to be placed in any direction although always in a straight line.

In addition to these options, there is no reason why you cannot modify the program further by changing certain key variables. These words could be entered or the program could try more ways to place words. The notes on variables and how the program works should assist.

W F U N Y K

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### THE SUBROUTINES

Line 00 onwards - a brief way of stating which way to move in the matrix. The variables R, L, U, D, DOWN, which have been set in the Direction routine (lines 00-10).

Line 01 onwards - points an instruction on when to use at the top of the screen, but also on how often the screen or window the full depending on what value the variable (RCL) is set to.

Line 02 onwards - takes numeric values from MATRIX, which are ASCII codes and turns them into letters on the screen.

Line 03 onwards - shows mapping points quite randomly but always starts with direction and second length (variable LW). Called and then recalled until the world is done in.

Line 04 onwards - see above.

Line 05 onwards - Direction is changed by adding (RCL) if (RCL) is set to 1 then direction changes by 90 degrees. From this, subroutines set the self-explanatory variables UP, DOWN, R and L.

### MAIN VARIABLES

MATRIX - an 80x80 character array whose dimensions correspond to the size of the window and which holds the ASCII codes of the letters could be increased or reduced. At present the size has been set to 80x80.

DOWN - because the Atari has a vertical scrollbar, this long string holds all the codes to be used being various, also in upper case.

RCL(0) - value of the cursor, represented by (R, L) always (ASCII 10) because of the dimensions of the window long string.

UPDOWN - used for simple movement.

UPDOWN - the instruction or moves like Up, Down, R, L - increases position in MATRIX and also holds the address of (R, L) screen.

R - the instruction for the vertical position.

DOWN - variable direction of word placement.

ASCII - the value to which DOWN can go before it is reset to 1.

RCL - the screen by which DOWN is increased when each word.

LINEY - the number of lines the Atari will try show, in the main, Placement is quite randomly divided (LINEY) can easily be increased if need be.

UP - value of the instruction to place a word.

LEFT - used (LEFT) - is a value and words downwards, up to be the word used to make subroutines on DOWN, TRAMP and garbage.

DOWN - you may also need to adjust (LINEY) and HEADS if you plan to use many long words.

# GOTO DIRECTORY

The GOTO DIRECTORY is a guide to retailers who provide product support for AT&T computers. Many of these retailers will supply Mail Order so if you have problems finding a supplier, turn to the GOTO DIRECTORY.

Retailers who are interested in an entry on this feature should contact the Editor on 0331 215823.

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## ULTIMA IV

The ultimate review or a story in its own right? Why has John Sweeney been moved to write at such length over just another program?

While out for a gentle stroll, you fall asleep beneath a tree. You are awakened by a strange noise - a magic portal opening and closing, and a small bundle falling through it. On examination the bundle turns out to be two books - *The History of Brevasia* and *The Book of Mystic Wisdom* (although you only discover the latter by translating the runes on the cover) - wrapped in a cloth. The bundle also contains a small *Alibi* and the cloth turns out to be a beautifully coloured map of *The Lands of Brevasia* (about 43 cm square). All these items plus a quick reference card are actually in your games pack, each of the books being very well produced, and giving you approximately 100 pages of interesting reading.

Following the sound of distant music you eventually arrive at a gypsy's caravan. She appears to have known of your coming, and asks you a number of questions such as 'How art thou or protect thy Lord at any cost, yet also knoweth he has committed a crime. Authorize out one of the affixes, dost thou A) break them each by Nobody speaking, or B) uphold Honor by silently keeping these words?' Each of the questions places you in a moral dilemma and forces you to choose between two virtues. After seven questions the gypsy says, 'So be it. Thy path is chosen', and you are transported to a strange land while a voice whispers in your ear, 'with the counsel of thy coverage'. The game now starts.

The screen changes to four windows. The whole of the left of the screen is occupied by a large square showing a land's eye view of you in the centre, surrounded by a variety of terrain. The map actually covers an area of 256 by 256 squares, of which you can see 11 by 11 - plenty of scope for exploration! The right of the screen has a window at the top showing the status of your party, a window at the bottom describing what is going on and allowing you to

enter commands, and a single line window between these showing how much food and gold you have.

Examining your statistics (both those which are always visible, and those you can scroll through by requesting Statistics - by pressing Z), you ascertain that you are a fighter with Chain Mail Armour and an Att, 200 Food, 200 Gold, limited Strength, Intelligence and Dexterity and 300 Hit Points. You also appear to have a small supply of Garlic and Garlic! You use the four arrow keys to explore your surroundings. As you do so the terrain scrolls smoothly around you so that you remain in the centre of the screen. You appear to be on a small island with mountains to the north and something interesting on another island to the south. Unfortunately you don't appear to have any means of crossing the interesting water in the distance. There is however something of interest on your own island - a small town. You move your character onto this and press B for Enter. The screen changes. You are now in the middle of an 11 by 11 view of a small town (which actually measures 32 by 32). The town is called *Italon*. Walking up to a nearby guard, you Talk to him (T). The bottom right window records your conversation. YOU: MEET A STERN GUARD - NAME! YOU say: 'I am a guard' JOB: 'I guard the pass and those passages' GATES: 'The pass of *Italon*' PASSAGES: 'These passages are restricted'

Well that sounds interesting - there do indeed appear to be some passages behind the guard and his colleagues. Unfortunately, unlike various other characters you can see moving around the town, the guard appears to be fixed in place. Remembering your experiences in *Ultima III* you decide it would probably be unwise to attack the guard - they tend to be a pretty tough lot! Besides aren't you supposed to be one of the good guys - an Avatar or something?

Maybe you will find some other way into the passage later. You wander on into town and explore a small patch of darkness between two buildings, it turns out to be a small wood, but there is nobody there. As you move around, the screen adjusts so that you can only see what is in line of sight - walls, buildings and woods obscure your view. You have a chat with a fighter: **YOU MEET A THIN FIGHTER - NAME: 'Jig' name is 'Turod' JOB 'Y fight with swords' WARRIOR 'There is no hidden spot of ground that where dragons' water lie - are there bones?' Aahh - should you answer Yes or No? Does it matter? You experiment a bit. NO 'Caution!' You ask him about Vainar again and say YES 'Vainar helps the druids' BRAVE 'He draves for there is much to lose' HEALTH 'Caution!' to better**

### You appear to be on a small island ...

You leave him and wander around the town. There is an Inn, but the innkeeper isn't very talkative - only allows entrance to selling you a bed for the night. Exploring the inn you find three bedrooms, but two of them are locked and occupied. You chat with Max the Housekeeper, but he doesn't seem to know much. You buy some ale at the Pub and when you top the barkeeper he asks 'What'd you like to know about?', but you don't really know yet! There is also an Armourer, a Weapons Shop, and a House of Healing. By talking to the various people wandering around the town you learn of various artefacts which might be useful to obtain, and you gain a number of potentially useful items of information! You eventually decide to leave for the moment.

Once outside the town you wonder what to do next. As you are studying your History of Britannia, a small Gate opens beside you on the island! You quickly enter it. The screen flashes to indicate magical activity and you find yourself on another island! Exploring the town here (Skans River) you learn of more artefacts, and gain more little snippets of information. Leaving the town you see the Gate opening again and quickly enter. This time you find yourself transported to a small clearing in the middle of a vast forest! Victory is awarded to a 3 by 3 square in the middle of the screen!

You set off south and east. Sometimes your attempts to move result in **SLOW PROGRESS**. You pass through some brushland, more forests, and finally reach a plain. Crossing this you enter some hilly ground, more **SLOW PROGRESS**. You finally reach (apparently?) mountains and start the long trek around them. Suddenly a small figure appears at the edge of the screen - looks a bit like a teddy bear? Eerie little you notice it moves. It seems to be coming your way. Oh dear, now a small figure waving a sword has appeared - he is coming your way too!

### ... you find yourself transported to a small clearing ...

As the teddy bear reaches you the screen changes to show your current position in close up. Your party, just you at the moment, appears at the bottom of the screen. The enemy, two of them, appear at the top. You move towards them. Once you are beside them you press A for attack and an arrow key to indicate the direction of attack. The bottom right window describes the action: **MISSILE!** They attack. Your character's status line flashes and his Hit Points go down to 386, then to 213. Attack again: **ORC BARBELY WOUNDED!** Oh that's what they are! They attack again. You attack again. Eventually one, critically wounded, dies and the other finally succumbs to your one blow: **ORC KILLED. EXPERIENCE + 6. VICTORY!** The scene returns to normal but there is now a chest beside you. You step on to it and press G for Get. The screen flashes again: **ACID TRAP - your Hit Points fall again, but you have gained 24 Gold!** The fight with the sword attacks you while you attempt to escape through the hills. Again the scene changes to close up for the fight, but, because you were on different terrain, the battle ground is different. Rocky outcrops mark the centre of the screen provide good cover so that only one of the two Rogues can attack you at a time. Unfortunately, you don't manage to kill him very quickly, and your Gold starts reducing! The devious little thief appears capable of rebelling you even while fighting you! You finally finish these two off, Get another chest and head off East again.

Finally rounding the last of the mountains you come to a river. You spy a bridge across it and head towards it. The ground around the river has a slightly different appearance to normal ground - the dots are bigger and more coloured. As you cross the river there is a sudden flash, and the G on your status line which indicated your character's Good health has changed to a P. **Hit Points!** This must be the marsh with the poisonous gases of which the History of Britannia warned you! With each step now your Hit Points decrease. You quickly search the Book of Mystic Wisdom and find a Cure spell. Reading the description carefully you determine that a Cure can be cast by using Gmsong and Garlic. Hey, that's what you have A for! Mix C for Cure: **CURE FAILED. MP TOO LOW. MP?** Ah, yes, Magic Points - determined by your character type and his or her intelligence. Check the book again. How many should a Fighter have? None! - Fighters can't use magic! His Points getting dangerously low, best try and find a town with a healer. Unfortunately, none you haven't the slightest idea where you are, you hit Your Hit Points reach zero: **ALL IS DARK, BUT WAIT, WHERE AM I? AM I DEAD? AFTERLIFE? I FEEL... NOTHING!** The scene changes. You are in Lord Branch's throne room. Lord Branch rises and says, 'A long time that has come. We have waited such a long time!' He sits and says, 'A new age is upon Britannia. The gods and lords are gone (see Ulmana I, II, and III) but our people lack direction and purpose in their lives. A champion of virtue is called for. This may be the champion, but only time shall tell. I will aid thee in any way that I can. How may I help thee?'

### This looks like your opportunity ...

This looks like a very special way to learn a bit. What should you do? Try **HELP**. 'Thank you but the open book above. There are many worthy people in the divine house whom it would be best to ask to join this. Build thy party with care (remember for only a few leaders can use the Quest). Quest? Ah, yes, the game is called Quest of the Avatar, wonder if Lord Branch knows what the Quest is, or what an Avatar is? **QUEST!** 'The Quest of the Avatar is to know and become the embodiment of the eight virtues of

problem. It is known that all who enter on this quest must prove themselves by conquering the Abyss and winning the Code of Ultimate Wisdom. **ADYSS** 'The Great Stygian Abyss is the darkest pocket of Evil remaining in Britannia. It is said that in the deepest recesses of the Abyss is the Chamber of the Code. It is also said that only one of highest virtue may enter the chamber, one such as an Avatar'. **AVATAR** 'To be an Avatar is to be the embodiment of the eight virtues. It is to live a life constantly and forever in the purest of inner rhythm and the world as which we live'. **VIRTUE** 'The eight virtues of the Avatar are: Honesty, Compassion, Faith, Justice, Sacrifice, Modesty, Spirituality, and Humility'.

What a knowledgeable fellow the Lord British is!

So, that is how your first half hour of Ultima IV might go. The next couple of hundred hours will be spent exploring the many towns, castles, and unexplored villages that are scattered throughout the lands, talking to the well over 200 different people in them, mapping the uncharted seas that fill your screen of

A friend of mine stayed with me recently. He is a fanatical games player. He owns a BBC with many games. I showed him Ultima IV. He stayed in my room. He went out to buy an Atari the next day. He says it's the best computer game he has ever played. I think I agree with him.

Anyone who has experienced Dungeons and Dragons in any of its many forms will have recognized from the description of the start of a simple game that this is indeed a computerized version of D&D. It is an extremely well thought out implementation. Lots of thought has gone into making it very playable and enjoyable. It is done by single key

... a game which is beyond all my expectations.

comments from the keyboard, the joystick is not used. Some commands require further input, for example, when talking to people you use single words picked from their conversation to probe for more information, also if you, say, 'Ready a weapon' you will be asked which member of your party wishes to Ready (reply 1 through 8) and the top eight members will immediately fill with a list of all your spare weapons, each identified by a single letter for you to type in (a great improvement on Ultima III where you had to remember what weapons you had and look up the appropriate letter on a reference card). There are eight different character classes: Mage, Druid, Paladin, Shepherd, Fighter, Thief, Bard and Ranger, all with different abilities and characteristics. Once you understand what is going on you can actually answer the gypsy's questions in such a way as to become whatever one you want, but don't waste time with that initially, just take what you get. Beware, a party can only have one of each class, so don't waste time trying to persuade anyone of your own class to join you!

Terrain is varied, and affects both movement and combat. It is also varied out in sea. Once you have explored a ship you will find open sea, deeps, reefs, shoals, bridges, whirlpools and whirlwinds to navigate, not to mention the fact that the wind always seems to be blowing the wrong way and that the seas are teeming with monsters.

The combat is excellent. You can see your party with numerous weapons axes, staves and swords for close up, bows and crossbows

for shooting the length of the screen, hammers for hitting the enemy once the heads of your comrades or your observations such as the side of a ship, plus numerous magical weapons which are rather harder to come by but will worth acquiring. Within combat the terrain is varied, especially in dungeons, where there are countless rooms each with its own layout including such things as windows, lava, energy fields, walls and bridges, as well as secret doors, treasure chests and traps of all sorts. In the countryside and in dungeon corridors you are attacked by whatever chances your way, the more experienced you are the easier it is likely to be, from once and abnoxious up to fiendish, dragons and ogres. The size of the attacking party will depend on the size of your party - there will be usually be more of them than there are of your Dungeon rooms on the other hand are pre-defined. Each one is a carefully designed set piece, with particular monsters in particular patterns - the deeper the master - don't venture too deep too soon!

Once you have engaged to combat, as planned a room, the members of your party appear separately across the bottom of the screen. Each of them gets a chance to do one thing, then the enemy pieces get one turn each, then each of yours and so on. The range of actions is quite wide a character may move one square, change weapons, attack with a weapon, cast a spell (provided you have stated it before entering into combat), or pass. So each fight, once you have a party of more than a few characters, is like a miniature board game, where you and the computer are moving your pieces round a board and fighting for the best position. The moves can have powerful

A friend of mine ... went out to buy an Atari the next day.

range on their side. One of their favorite combinations is a group of wizards or halflings, protected by walls, energy fields or their allies, throwing multiple sleep spells at your party. If any of your party go SLEEP then they are liable to be beaten to death by hordes of dragons and phantoms before they can be wakened. In order to survive you will need to learn how to use magic yourself!

Magic is well implemented. You are provided with the Book of Mystic Wisdom. The extensive details of 26 spells ranging from simple Light and Cure Spells to the much more difficult *Thunder* (deconstructing against most enemies) and *Restoration*. Most of the characters can start using some of the simple spells right from the beginning of the game. Not so the more difficult ones, for a number of reasons. First, the Book is incomplete and inaccurate in its description of the measures of reagents needed to prepare for the casting of some of the spells. Second, only six of the eight reagents are sold in Herb Shops, the other two, Nightshade and Mandrake Root are extremely difficult to come by (even if I told you exactly where they are you probably still couldn't find them) and are of course required for the best spells. And even if you should eventually track down the formulas and the ingredients, you might well find if you did not have a sufficiently powerful magician on your party. There are ways to improve your characters, so eventually you should be able to cast any spell you wish.

The Lands of Britannia are large. You will need to travel them many times, and make careful notes. There are many reasons you will need to revisit towns, villages, and castles. Apart from the obvious one, that you haven't discovered all of a place's secrets (and there have many), you will also find that certain weapons, for example, are only available in certain towns, that not all towns have Herb Shops or Food Stores, and that points for goods vary from place to place. You will also find that a person you talk to will refer you to a character in a different town. Armed with this knowledge you can revisit someone you have talked to before, prompt him with new keywords you have discovered and gain new information. There are subsidiary quests are not always met, as some locations are almost completely inaccessible, and also the object of your search may well be very cleverly hidden or disguised.

There are numerous ways to travel on foot, horseback or ship, by Moon Gate and by Magic. And there are runners of a lighter-than-air device, according to the *History*. There are also runners of *Thieves' Guilds*, somewhere out on the uncharted seas, well worth a visit, as those of you who will have played previous *Ultimas* will be aware. They are a source of items such as keys and magic gems, which enable you to get

an overview of the surrounding land or dungeon area (32 by 32 (22 by 22 in a dungeon) instead of the usual 11 by 11). A visit to the Lighthouse is also deargably recommended as early in the game as possible. Dungeon corridors are similar to those in *Ultima III*, you get a view of what you can see down the corridor, instead of the usual view lines above, but they are much more sophisticated than those of *Ultima III*. Each *Ultima III* dungeon is made of eight square layers directly above each other. In *Ultima IV* there is no such uniformity. Dungeons ramble in all directions, Up and Down spells rarely work (and even more rarely work usefully), there are countless dead ends, divisions, and cut way hallways. The solving of a single dungeon in *Ultima IV* has more in it than a lot of games on the market.

---

**... one of your many  
objectives is to become a  
partial avatar in all eight  
virtues.**

---

One interesting facet of the amazing game is the fact that one of your many objectives is to become a partial avatar in all eight virtues. This means that you are a Good Character. You must think twice before stealing treasure chests from crates, or shooting living creatures in the back. You will have to learn lots of little ways of peering to the game that you are a good guy. Initially you will find some of the philosophy thrown at you by various of the sub-characters to be a little confusing. Hopefully it will all become clear as the game slowly unfolds. If it doesn't you are in trouble as you need to unravel quite a lot of clues hidden therein in order to win the game!

Finally, once you have gathered all your friends, armed them all well, proved what a good guy you are, and acquired not only numerous artifacts but also vast knowledge, you **MAY** be ready for the Abyss. Unlike the other dungeons, the one's entrance is well guarded and unmarked; should you actually succeed in reaching it and locating it you will find that the usual E for Enter is completely inadequate. If you ever manage to get inside it, you will find that it makes all the other dungeons look like child's play. And if you should actually happen to have with you all the knowledge and artifacts necessary to reach the entrance to the Chamber

of the Codes, not to mention being able to survive long enough to map and progress through all eight levels of the Abyss - and that means passing through over forty rooms full of monsters and traps - even should you get there, there are some very nasty trials left to prevent you achieving full Avatarhood. But I'm not going to give you any clues on that yet!

The documentation is superb, except for a couple of details. It never mentions the fact that the space bar can be used to PAUSE (now that that affects things like movement of enemies and restoration of Magic Points, but NOT the music or the wind) or to make the game move on during certain parts of conversations, during the usual preamble with the gypsy, and to get rid of the Title Page after you have booted the game. Nor does it tell you what to do if the phone rings during a crucial battle. Z is actually a valid PAUSE command at any time that you can use it. If you don't pause the game with Z then it will assume you wish to PAUSE after waiting 18 seconds (12 seconds if you are in combat). The only place where you must concentrate, since too long a pause can be disastrous, is during confrontations (just hope the phone doesn't ring then). Also it is not clear whether or not you can have two long-lasting spells in effect at once. The P for Protection, I for Iron, and Q for Quarters all use the same space in the middle of the outer eight windows. Each of these can last for many turns. By casting a new one you erase the home advantage the continued effect of the previous one, but have you actually cancelled it?

There is a minor bug caused by riding a horse into Castle Britannia. If you dismount to climb the stairs, on your return to the ground floor you will find your horse has disappeared!

---

**Finally ... you MAY be  
ready for the Abyss.**

---

One improvement on previous *Ultimas*, which is unacknowledged, is the fact that the save facility (Q for Quit and Save) in a proper Save is the usual adventure style. In *Ultima III* if you entered a town or dungeon an automatic save was performed by the game whether you liked it or not, and should one of your characters die he was immediately marked as dead so that you couldn't return to get him back. In *Ultima IV* you can suffer major catastrophes without concern,

*continued on page 76*

# First Steps

by Mark Hutchinson

I would firstly like to thank all the people who contacted me about the ANALOG issues, especially Chris Kemp. I have not forgotten the parcel, Matthew. I will try to send you some files soon.

## ATARIWRITER

A few months back my old 480 decided to be down and die. I promptly bought an 800XL and continued pounding keys. For some reason the ATARIWRITER cartridge I was from PAGE 4 (thank you readers!) would not work with the XL. The first few lines printed out, but after that would come line feeds corresponding to the page feed. I was able to borrow another XL, but the same thing occurred. This was most disappointing and I can only guess at the cartridge being an original and using I/O port B which is used by something else on the XL.

Recently I have been able to lay my hands on ATARIWRITER PLUS. All the printer problems seem to have disappeared. I mention this problem because I am sure that many will have changed to the XL during the absence sale. If so, make sure you see the printer working first before you buy the cartridge!

I have had a go at the 8008 printer and, for the moment, I found it very good. I consider it a printer coping out for programs. By the time you read this, if I can increase it again, I shall have tried out PRINT SHOP with it. I also obtained a screen dump program but have not had the time to try it out. If you are interested please contact me.

## JOYSTICK ROUTINES

This month I have included a sample program to show a joystick on screen, some of you may recognise it. The program will display the positions of the joystick and the numbers returned from the memory location of STICK(0) - location 602. To keep it simple, I have used conditional statements (IF THEN) to compare with the values returned. As you can see, although it is easy to read the program, it takes up a lot of lines. In issue 10 I gave a listing that would reduce most of the lines using Boolean algebra. Have a look over that listing again, it was used to good effect by Cliff Whiting in issue 22. This time we will have a look at how to do this using a simple array to store the X and Y offset - what



has to be added as X or Y for the next position.

As the joystick returns a value of up to 15, I have set up an array of 30(15) for the X offset and 15 for the Y offset. The offset values are read into the array. When the program gets a value (P) from the joystick it looks at the corresponding point (P) in the array for the X offset and for the Y offset (P+15). These are then added to the current value of X and Y and a new position is plotted. The program then goes back to the beginning.

I have used a TRAP to avoid programming for wrap around (making the dot disappear at one side and appear at the other). When an error occurs, the TRAP ends the program in line 1000. Here the TRAP is cleared and the program is sent back to the original X and Y positions. Note that the TRAP has to be reset. I remembered Steve Wayne's letter and listed the listing with REM's (they can all be left out).

## COMING UP

In a future column I want to look at all those tables that experienced users know about but never pass on to beginners, e.g. CONTROL-1. However, I will need some help from the 'old-time' readers of this magazine. Knowing these things is one thing, remembering them when writing this column is another! I want you to send me as many as YOU can remember. You may think that you are helping me, but you are really helping all those people who just bought a new ATARI - remember the day when that was YOU? If I do not receive any then I will write about something else!



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**A SOUND SAMPLER**

To Jim Duvall who is looking for a sound sampler, try 2-BIT SYSTEMS. Their demo's are great. Hopefully PAGE 4 will have a review of this program in this or the next edition.

**HELP!  
EXPERIENCED USERS**

Shortly I shall be compiling as many ATARI tips as possible. For this I shall need your help. If you know such things as using CONTROL-1 or switching on the cassette motor to Demos to repair then please send the details to me as soon as possible. Your input to me will help all those new readers learn about things that we only fear (or pretend and because they are taken for granted, they are hard to fix, which is why I need your help.

Write to Mark at BAUG Software, P.O. Box 10, Belton, BT10 0TB

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# Contact

**IBM PRINTER WANTED:** We need a cheap IBM printer to test out some of the programs on it for publication. Anyone got one to sell? Contact Les Bingham at PAGE 6 on 088 11908.

**BRANDS DESK:** Now available in stock. Depending on 386/110000 at 300.000 for next range 1.0 to 10.0 p in an hour/day. The board operates on a complete server system. Synap-M Group.

**MEDIA BATH:** 800XL printer used, bought as a package for the club desk. £200 o.n.o. Reply: Sound Sampler, complete package including software. £200 Barry Armstrong, 280 Fox Jones Lane, Chalfont, Bucks. OLS 92K. Tel: 049 412 4100 after 4 p.m.

**ANALOG WANTED:** Has anyone got a spare copy of issue 21 of ANALOG magazine? I have an issue 21 ANALOG and one 2 Dec 1988. Also I'm going spare. Please write to Bernard Gault, 11A, Newport Road, Gwent, G6 6WJ, G621 3PW.

**HITCHHIKING GUIDE:** I am totally stuck with the manual on the place where the link is. What do I do? I have many balloons and can give hints on my Channel 4 programme or Adventure International. We'll contact please visit and visit him. Andrew Thompson, 133, Hildry Way, St. Davids, Carmarthenshire, 3 Wales, NP44 7HT.

**ANALOG WANTED:** Issue 28, April 1988. Good price paid. Phone Colin Saunders on 02 422 2773.

**CONTACT FROM TURKEY:** I would like to contact any Amn users from any country. I have a 1800XL, 800XL, 1050 disk drive, 8086 monitor, 1020 printer and 8027 printer. Expert in BASIC and know machine code at advanced level. Anybody willing to discuss on swap items and techniques about programming would be welcome. Mr. Alan. P.O. Box 81, Mugu, Marmara-5, Turkey.

**RECIPE FOR SALE:** Atari 400/600, 1000 cassette, Index GT (brand new), 8028 XL with Index GLE Synthesizer, computer housing, 8028 400, GT, 1018, all power supplies. BASIC cassette, manuals. All for only £299. Please 0248 708073 and ask the Mike.

**FOR SALE:** Atari 800XL, 1000. Datasheets, manuals, 1 programmed spec, 2 blank tapes, Compaq's Atari Collection Vol 1, Atari Basic book. All in brand new condition. £75. A.F. Copwell, 18, Manney Walk, York. Langston, Devon PL9 2NX. Tel: 0752 81100 no time.

**ATARI RIGHTS:** Please can I buy, beg, borrow a copy of Atari Rights? Payment paid in. Phone Mr H. Field 0634 12481.

**ATARI CLEAR-OUT:** Mass items, 800XL, 1000XL, Commodore monitors, 1050 disk drive, cassette, floppy, blank, diskettes, BASIC, ANALOG, ANALOG, PAGE 6, ATARI USER, other maps, accessories. Everything in great condition. Something for every-one. Register your Call Members, Newsletter 11 8271, evenings.

**FOR SALE:** Commodore M/C monitor for the Atari 800/600 £25. Will make Speech Synthesizer, stand and F.V. £25. Speech Recognition system £20. Atari Tracked £10. BlackBox Commodore Interface £10. E. Hearn, 16, Spynard Close, Falmouth, Cornwall, Salter, NR15 1JQ. Tel: 0882 66828.

**ATARI ST INTERNALS:** As requested in issue 21. Unwanted parts from the Stans. Will sell for £10 or swap for the right tools. An Atari 8 bit machine. Phone 021 309 7440.

**FOR SALE:** Epson FX80+ printer, cable and Atari 800 monitor. JT monitor old and in great condition. £175. May split. Please phone or write to Mike Lynch, 24, Oakdale Road, Aylesford, Leicestershire LE15 2SR. Tel: 041 264 8035.

**PAGE 6 BACK ISSUES:** Unavailable copies of PAGE 6 for sale. Issues 7, 8, 9, 11, 14 and 15 or £1.00 each by post. Please phone after 4 p.m. 0245 70752.

**PEN PALS WANTED:** I have a 800XL (1040), 1050 printer, 1040 cassette and two monitors. Here in Belgium, I don't have much success in making contact with other Amn users. Please write to Johan Steyvers, Schiedamschedijk 40, 2670 Poesse, Four Sarrevoeren, Belgium.

**PEN PAL WANTED:** Especially in the U.S. & on in the U.K. or anywhere in the world. Must be an Amn and camera user. Wanted to swap books etc. Also any advice from how to get underground in Zurich? Contact: Michelle Lutz, 78, Chantebury Avenue, Kewton, Essex, RM20 9JA, England.

**MAGAZINES FOR SALE:** ANALOG, ANTRIX, PAGE 6, HITCHHIKING, COMPUTER GAMING WORLD and books on Atari. Please send a.c.d. to Mr H. Field, The Chimes, Bells Lane, Hove, M1. Southover, East, BN1 6RT for list.

**CONTINENTS 799 PRINTER FOR SALE:** Accepts all Amn 825 printer codes to print printer option 2 from Atariworld. Takes roll, single sheet and tractor fed paper. Spare ribbon, handbook and Microprint/Touch Tablet dump included. Register Commodore members (with an Amn 850 or similar) £199 o.n.o. Phone Daveyok 0923 423719 (Walsley).

**MAGAZINE SWAP:** Will swap public domain software for magazines or PAGE 6, ANTRIX, ANALOG or Send a.c.d. for details to Pippinone, Unit 24, Concorde Street, London, SW9 6QS.

**IBM COMPUTER WANTED:** IBM system based on labman 4860 keyboard on a 80081? Contact David Wade, 44, Histonwood Drive, Leicester, LE3 2AD.

**BEIJIAN PEN PAL:** My name is Peter Hinder and I live in Mellebeke, Belgium. I own an Amn 800XL and a 1050 cassette recorder. I am looking for pen-pals around the world to swap books and ideas with. Please write to Peter Hinder, Buissonniersweg 59, 2604 Mellebeke, Belgium.

**COMPLETED ATARI SYSTEM:** Amn 1050XL computer, 1050 disk drive (with US Double Disk), 1029 printer, 1014 camera, 1050 printer/plotter, Deluxe machine monitor, many more of date/ROM software. All hardware with packing and full instructions. £250 o.n.o. (will split for good offers). Call Phil Rodman 02 249 944 anytime, 01 295 2550 evenings.

**HELPS:** Stuck on Ray-OL, London. Books and Approx of Dutch Part 1. Can swap help on Java Machine, Advertisement, The Golden Moon, The Little Indians. Write to Marc Jans, 5, Fennelwood Road, Harwell, Oxon, OX8 1XL.

**RADIO NAME:** I have an ST which I wish to use BTFF on. Can anyone help? Listings in C or BASIC okay. Also does anyone want to swap 800XL, 1050, 800, 1028, 1010 and software for a price to contact to the ST? I would like a M142 also system program, preferably an Epson or alternative, sell all for £200 (including accessories books). Contact GREG on QTH R V1 Wood, FROXON, RAF Wyton, Huntingdon, Cambs.

**FOR SALE:** Spare 800XL, £40. Spare 800XL, £35. Also 440 expansion for 800XL, £25. Letter Quality 1027 printer £80. Does anybody want a full 1050 computer for spare? £25. Tel: Westonsageon 0542 812044.

**1400 PRINTER:** Any programs/ manuals for the 1400 wanted. Also 800XL for sale. Offers please to Phil Cunningham, 11, Berwyn Avenue, Puyllant, Chester, CH4 9HJ. Phone 0578 760812.

**ANALOG & DISK FOR SALE:** ANALOG magazine and disk for May and June 1988, unopened. £5 each. Jonathan Smith, 4, Hall Close, Glen Parva, Leicestershire, LE12 0AE. Tel: 0753 787100.

"No! You can't have a modem - we'll need a second mortgage to be able to pay the phone bill!" Such was the response from The Lady of Infinite Windows the first time I hinted it might be fun to explore the brave new world of telecommunications.

"And anyway", she added, "I bet you don't even own a fortune. We've got enough computer stuff about the place as it is."

I had to agree with the drift of this argument, and put the idea out of my mind.

Unfortunately, at the next meeting of the local Atari computer club the Treasurer happened to mention he'd got a telecommunications package for the Atari. Being a kind soul he offered to lend it to me for a couple of weeks. The package consisted of a WS2000 modem, the Datatar serial interface, and Multi-ViewTerm communications software, all supplied by Minicube Technology. In short, everything I needed to "go online" and explore the exciting new world of telecommunications.

It was with some trepidation that I carried the forbidden items into the house after the meeting that night. The Lady noticed the silly stuff I must have been wearing.

"You've got a modem, haven't you?", The Lady said with serene emotion.

"Er, yes, but only for a few days", I stammered. "Just to learn with - it belongs to someone at the club. I'll only use it for local communications, so the phone bill won't suffer". I lied, hoping The Lady wouldn't see through me.

"It won't matter, because you'll be paying for each call as you make it", she said, serenely, handing me a pie with a coin slot conveniently cut in the lid.

So we came to an unspoken agreement, and the modem was given a temporary visitor's visa to the household. There followed a short period of intense concentration while I attempted to find out just what it was I had borrowed.

## THE WS2000 MODEM

This is a small, neat, black plastic box measuring about 5cm by 5cm by 2.7cm. It looked very smart sitting on top of the disk drive. The front panel carries three rotary switches operated by stylish black knobs. These control Online/Local Test modes, ViewTerm remote/bulkline board and other modes, and finally whether GATT (European) or Bell (USA) standards are used, and the data transmission rates that go with them. For use in the U.K. the Bell standard settings have been indicated by the manufacturer. The white and red lettering round the switches is clear and easy to read. On the left of the front panel is a vertical row of 5 LEDs, which light up to show the status of the modem at any time. It's not always obvious what the front panel settings should be for a given communications session making careful study of the manual a must.

The back panel carries four sockets, a fixed mains cable, a fixed line cable and plug to connect to the BT wall socket, and a mains on/off switch. The sockets are used as follows: Auxiliary Port for future expansion,

Telecommunications is still a mystery area to many owners. Is it worth it? What equipment do you need? In this two part article John Davison reviews the most popular package and gives a first hand account of his experiences.

# GOING ONLINE

## Part 1

by John S. Davison

e.g. for acoustic coupler and battery backup device, Telephone Secret to plug in your telephone, User Port for remote control of the modem from a computer or other control device, and an RS232 Port, which is the normal way of connecting the modem to an Atari. The two of interest here are the Telephone and RS232 sockets.

The WS2000 supports just about any transmission mode and speed you're likely to need in the 'non-professional' area. It supplies 300 baud full duplex, 600 and 1200 baud half duplex for bulletin board and direct user to user connection, and 1200/75 and 75/1200 baud full duplex for use as terminal or host end of a Viewterm server. Minicube Technology can provide acoustic and automatic boards for the modem, but neither were fitted to the one on loan.

## THE DATATARI INTERFACE

This appears to be a cable with a standard Atari serial I/O plug on one end, and an RS232C plug matching the modem socket on the other. Using this interface does away with the need for the hard-to-find Atari 850 interface. Anyway, the 850 doesn't support upto 1200/75 baud transmission rates required by Viewterm systems in the U.K., so in this respect the Datatar is a better buy than the 850 for telecommunications use.

## MULTI-VIEWTERM SOFTWARE

This program was written by Matthew Jones, a regular contributor to PAGE 6. It's almost completely menu driven, which means it's easy to use, especially for the beginner. It has two main modes of operation, offline and online.

In offline mode it allows you to configure the software for the communications service you're about to

establish, setting baud rate, parity, whether full or half duplex, Teletype or Viewtext mode, and whether line feeds are to be automatically generated. When you've set up a configuration you can save it in memory or disk for use at a later date. This means you can keep a library of the configurations of all your favourite bulletin boards and configure your system to use any one of them simply by loading the appropriate file in. They could save you a lot of time if you use many boards, as people usually do.

Incidentally, don't worry about the screen too much, you'll soon pick it up. Most of what you need is explained in the instruction manuals that come with the package.

Offline mode also lets you save incoming messages from a buffer in RAM into memory or disk, or to load incoming files into the buffer for viewing, transmitting, or printing. The menu also lets you list the directory of a disk, delete files, and protect or unprotect files.

A further office facility allows you to set up user defined keys for use in online mode. The most common use for these is for entering frequently used commands, or your name and passwords, which can then be input with a single keystroke. Useful, as saving time saves you money.

Online, or terminal mode is the one you use for the actual communications system. In this mode, your computer becomes a terminal with the characteristics you defined when you set up the configuration. You can transmit data from the keyboard or the buffer to the remote computer, and receive data for display on your screen from the remote computer. Optionally, you can capture data received by having it stored in the RAM buffer for manipulation as described above.

While in Viewtext mode you also have several preset function keys. These transmit frequently used PRESTEL commands, such as go to main index, go to previous page, leave PRESTEL, etc. Other special keys are available for things such as turning the buffer on and off, and setting the screen background colour. These are available in Teletype mode also.

## Connecting Up

Preliminary investigations revealed that the modem had to be plugged into one of the new type BT wall sockets. The only socket in the house was the one for the extension phone in the bedroom. Unfortunately, the computer was about 30 feet away in another room, wired into a computer desk. For the sake of mental harmony, rather than mess the computer desk into the bedroom, I bought a phone extension cable from a local electrical store. Cost - £5.50.

Connecting everything up was easy. I unplugged the phone, inserted the new extension cable in its place, then plugged the modem line cable into the other end of it. The phone then plugged into the back of the modem. Simple - a two minute job. The next job involved connecting the modem into the IMIKE's I/O data chain. One end of the Datamax interface cable plugged into the five serial port on the back of the disk drive, and the other end went into the back of the modem. Again, dead simple. Finally the modem was plugged into the mains, and the hardware was ready for action - total setup time was less than 5 minutes.

## Operating the System

The next step was to understand the software and operational aspects of the modem. The W32000 modem and the Multi-Viewtext software each have their own short instruction manuals. The 17 page modem manual makes liberal use of pictures as well as words. The front panel of the modem is rather intimidating, having many different settings possible on the rotary switches. Use of pictures to show you how they should be set is a much better idea than trying to explain in words. The manual is laid out logically, with separate sections covering initial setup and wiring, online use in communications with Viewtext type facilities (like PRESTEL and Muxcom), bulletin boards, and direct contact with another user. There is also a useful section on fault finding, if things don't work as expected, but this is probably a little too technical for some users, especially beginners.

The 20 page Multi-Viewtext manual is fairly straightforward, giving a brief introduction to tele-communications, and then a brief description of each function of the software. There are no comments to ourselves, thank goodness, as virtually everything is available by using selection or through function keys. The manual includes a not-so-simple you can guess about the numeric keys to remind you what they do when used as function keys, a nice touch.

One area it didn't cover was how to download software from a bulletin board. It covered the Viewtext side, but as Muxcom doesn't have an Atari screen it would have been better to include instructions on how to do this in Teletype mode, as there are a number of boards operating in this mode which do have Atari software available for downloading.

So, after spending a while reading and re-reading the two manuals, doing the basic modem tests, and familiarising myself with the software menus, the Big Moment had arrived - time to contact a bulletin board!

## Using the Package

The next few days (or rather nights - cheap rate phone calls) saw me communicating significantly to BT's 1066 profile, as I grappled with bulletin boards good and bad. The story of what happened makes an article in itself, so I'll save the gory details for a later issue of Page 6. Let's go straight on to my impression of the products used.

In use, the package of products worked well, and appeared to do everything claimed for them. I'd never used a bulletin board or PRESTEL before, but this package made the whole operation fairly painless. It cost about £185 for the complete system, although the terms may be bought separately, if required, about £125 for the modem alone, and about £60 for the Datamax interface together with the Multi-Viewtext software. Normally, though, you'd probably buy the whole lot together as a complete telecommunications system. This has to be one of the best ways for an Atari user to go online, if this is your interest.

The W32000 modem in particular struck me as offering fine rate facilities at a reasonable price. With the add-on facilities promised, and comprehensive interfacing and control features on the back panel, it

# UPDATE



**THE CHASE (ISSUE 19):** The listing in proved will not run on the 486 or 586. After many head scratching hours the solution turned out to be amazingly simple. Just add a zero column to the end of line 944! The only remaining puzzle is why, when the XL/XX machines don't cord at?

**FRACTALS (ISSUE 12):** The book mentioned at the beginning of the article 'Frontiers of Chaos' is edited by Feigen and Koblitz and not by Mandelbrot as stated.

**QUICK DNS ASSEMBLER (ISSUE 21):** There is a mistake on line 730 which should read as follows:

730 IF ADDR=0 THEN ADDR=0000-LOC2

has the capability of being developed into quite a complex system in its own right.

My main criticism is aimed at the software, and concerns its downloading capabilities. As already mentioned, the manual gave little way to this aim. Many of the boards contacted seemed to require the use of a special protocol, known as XMODEM protocol, for downloading software. Many Vaxusers does not appear to have this. (An upgraded version is now available. Ed / Also, the buffer used for capturing incoming data only seems to be about 12K in size. If you exceed this, it simply overflows and you lose the excess data. You do get a warning of this, though. So how do you download a program larger than 12K? I guess you can't at present.

As I've not used any other system it's difficult to judge its worth relative to other products on the market. All I can say is, it worked, showed no obvious signs of bugs, and was easy to use. The beginner couldn't really ask for more. Experienced users might think otherwise, though.

I'm now trying to work out how I can change the owner's view. The Lady granted to the package to something more professional. Full acknowledgement, perhaps? That would take some time, as The Lady knows what the true online costs are likely to be. That we already had an awful lot of coins in it. This aspect will be covered in Part 2 of the article, which looks at the joys and pitfalls of 'going online'. ■

Could YOU write an article?  
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## CROSSWORD RESULTS

What is the best way to win a prize in a competition? Easier it! It seems that our crossword last issue was much harder than we thought and we received only a few entries by the closing date as prizes were awarded to everyone who entered with priority going to those who won the correct entry.

Those who got it right were Eddie Coonan from Scotland, G. Lane from Utah, Jason Quigley from Dublin, Colin Thompson from Liverpool and Paul Ryan from Sheffield. The runners up were G. Davies, T. Alexander and Gerry Francis? - they may have got it wrong but at least they entered!

Appropriate prizes have been forwarded to all. We do not have space to print the correct answers but anyone interested can send a S.A.E. for the solution.

As a point of interest, the Editor never won a great prize in a competition run by a climbing magazine simply by entering. They had 180 prizes on offer and had quite a few left over because they had too entries. And their circulation was above 90,000! There's a lesson for you.

## COLOUR MAGIC

Here are a couple of super demos from reader Christopher Fox. The first listing will really test your powers of CTRL-F, character recognition bar with the help of EPOC and the chart on the Learning Conventions page you can do it. Believe me it is worth it.

Listing two shows some 'Type Draw' based and impress all of your family and friends with the power of Atari.



by Christopher Fox

### ULTIMA IV *continued*

since by substituting you can restore to the last point at which YOU saved a Quest and Save.

The reference card says that you can switch the Colour option from standard 800 to XL screen during boot up. Unfortunately when it asks you which you want it doesn't tell you which is which. I can't get very good colour either way with my version, indeed I have to turn the colour control up on my TV to get any colour at all. The only problem this causes is that it tends to be difficult to detect, but that may be irrelevant anyway! It may be that my colour problems are caused by the fact that my copy is an American import. Alas! The UK version will have fixed this. But it doesn't really matter, the game is so good that since you get hooked you are unlikely to worry about the colour.

The documentation also assumes that you understand some of the basic concepts of D&D, such as Hit Points, Experience, and Levels. If you have never come across any of that before then find a friend to explain it to you, or just play along and pick it up as you go.

**If you have been wondering why you should add a disk drive to your Atari, here is the answer!**

Ultima IV has a lot to offer regardless of your interest. Whether you enjoy level the logical challenges involved in conversing with the townspeople, the exploration of the wilderness, or the fighting in the

displays you are bound to find something in Ultima IV to get you hooked. You can even, as one of my users did, set up your own objectives within this superb fantasy world. He decided to see how evil he could be - he saw that the Sorc coming out with responses such as 'That's not a cool and a wonder. Thy presence is an affront. Thou art less as a thief' - he went too far when he attacked Lord British though he turned out to be invulnerable!

If you have been wondering why you should add a disk drive to your Atari, here is the answer! If you have a drive already then you shouldn't miss this experience. I don't know how much the UK version will be, but if you compare it to the number of hours you are impressed in Ultima IV I'm sure you will find it a bargain! I wonder when Ultima V will be out?

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Continued on page 1004

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